Introduction

Two years ago we established the Research Volunteers Register. This allows people with communication difficulties who are interested in taking part in research to link up with researchers and projects. Some of the projects involve trials of new therapies. Others explore new ways of assessing speech and language. The researchers can be students undertaking their first projects, through to senior members of staff. All are important: the students are the future leaders of research. In this newsletter, students and staff describe some recent projects. You will see that some projects led to the award of national prizes. Others resulted in publications in important journals, allowing new advances to be shared with other researchers and clinicians from around the world.

People with communication difficulties and their families and friends are central to these achievements. Volunteers willingly give up their time and tackle the challenges of new activities. Without you, the research would not be possible. We are immensely grateful for your enthusiasm and collaboration in learning more about communication difficulties, finding the best ways to assess speech and language, and ultimately find better treatments.

This year, we also held the first Communication Clinic conference. We tried to explain our projects and findings in an aphasia-friendly manner. We discovered that this is not always easy. We will work harder on our communication skills at future conferences. Research volunteers raised important issues at the conference. In particular, many wanted more feedback on their performance. Some researchers (mainly me!) explained why this is sometimes difficult. But the suggestion is important. We will think hard on how we can do better.

Thank you for being part of our research. We look forward to working together in the future.

Professor Rosemary Varley
Head of Department, Language & Cognition

In this issue
- Results of recent projects pages 2-11
- New project looking for participants page 12
- Get in touch page 12
Listening to sentences

Claudia Bruns
Vanessa Meitanis

Why is it important?

Most people with aphasia find sentences difficult.

We looked at how people with aphasia listen and react to different types of sentences.

We worked together and asked 2 questions:

- Are some phrases easier than others? For example: “fish and chips” vs. “bread and chips”

- Do people with aphasia notice grammatical mistakes? For example: “Mary hopped frogs” vs. “Mary chased frogs”

Our participants

People with aphasia
People without aphasia
What participants did

Participants listened to sentences and pressed a button when they heard a certain word. We measured how quickly participants pressed the button.

Here is an example of our task:

Main findings

For most individuals with aphasia, common phrases like “fish and chips” are easier than less common phrases like “bread and chips”.

Most individuals with aphasia do notice that something is wrong a sentence like “Mary hopped frogs”. But some types of errors are easier to spot.

What we learned

- The computer task is a new way of assessing language problems
- The task is similar to natural conversations: you have to process words and sentences quickly
- We are learning about how aphasia affects speed of listening and understanding
- The results help in designing new therapy for aphasia
The impact of background noise on speech output in people with aphasia

Why is it important?

Communicating in noisy environments is difficult.
The research will help understand how people with aphasia cope with noise.
This may lead to new therapies to help people with aphasia.

What participants did

Participants described a picture 3 times:

1. In a quiet condition
2. In cafeteria noise
3. With another person speaking in the background

Findings

People with aphasia spoke more loudly in noisy conditions.
People with aphasia increased their pitch in noisy conditions.
People with aphasia found it particularly difficult to think with another person speaking in the background.

Luisa’s project and Tom’s (on page 7) jointly won the Tavistock Trust for Aphasia University Student Prize 2017
The linguistic complexity of speech produced in background noise

Why is this important?

Some people with aphasia find it hard to speak in noise

It is unclear:

- how noise changes speech
- if different noises have different effects on speech

Linguistic complexity includes: vocabulary, words per minute, utterance length

What participants did:

Participants heard different noises through headphones
Participants told the Cinderella story
Participants rated how difficult they found it to speak

Findings:

People with aphasia are better at speaking in noise than they think

Information, speed, vocabulary and grammar were the same in noise

People with aphasia and controls made the same changes to their speech

Speech was the same in different noises

It will be helpful to conduct speech and language therapy and assessment in noise
A survey of speech and language therapy provision for people with post-stroke dysarthria in the UK: patient perspectives

What is dysarthria?

Dysarthria is a medical term used to describe a communication disorder that affects how a person’s speech sounds. A person with dysarthria may find it hard to move their tongue, jaw or lips, and/or find it hard to control their breathing when speaking.

Why do we need to research this?

Stroke-related dysarthria can have a negative impact on a person’s emotional wellbeing and quality of life. Speech and language therapists (SLTs) support people with communication difficulties after stroke.

The aim of this study is to find out about what people with stroke related dysarthria think about speech and language therapy services in the UK.

How we gathered the information

The project team developed a questionnaire for people with stroke-related dysarthria. This included questions about their experiences of speech and language therapy, as well as what factors make up a perfect service.

What we found out

The majority of people who filled out the questionnaire were positive about speech and language therapy. It helped people with stroke related dysarthria to improve their speech and increase confidence.

People with stroke related dysarthria think a perfect SLT service would provide therapy when people need it (even several years after their stroke), and include family and friends.
How important is pitch when deciding if a sentence is good or bad English?

People with aphasia may find some complex sentences difficult to understand. But research has found they can still tell good from bad English. How do they do this?

One option is that instead of deciding based on grammar, they decide based on pitch – the rising and falling tones across a sentence.

Pitch in sentences has a predictable pattern, which would be different in good and bad sentences.

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**What participants did**

People listened to recordings of sentences. Half the sentences had their pitch removed by a computer program.

Participants decided if each sentence was good or bad English by clicking a button.

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**Findings**

People with aphasia were still able to decide if a sentence was good English or bad English when there was no pitch.

This means pitch is not of special importance. People with aphasia can use grammar to decide.

Knowing more about how people process sentences is important for directing future therapy.

Thank you to everyone who took part.
Self-correction of errors in different language tasks

Why is this important?

People with aphasia can sometimes correct mistakes they make when speaking. If someone can correct themselves they can still get their message across.

Trying to make a correction shows other people there is a problem, even if the correction is not successful.

It is an important communication skill. There has not been much research.

What people did

This study looked at self-correction in three different speaking activities:

- Picture naming (Comb, bear, horse)
- Story telling (At midnight she ran away from the ball...)
- Conversation ("And then he..." "Hang on, was he still at home?")

Findings

There was no relationship between self-correction rates in the different activities.

Conclusions

Different self-correction skills are used in different tasks.

One kind of language activity (e.g. picture naming in therapy) does not tell us directly about another kind of activity (e.g. conversations with family and friends).
Investigating how speaking rate and contextual information affect the non-native accent comprehension in adults with aphasia after stroke

David Rank

Why is this important?
This study’s results might help to improve the advice we give to foreign accented speakers when speaking to people with aphasia.

What participants did:
Twenty people with aphasia and twenty people without aphasia listened to 120 sentences spoken by a foreign accented speaker. Listeners had to choose a picture that matched the last word in each sentence. Some sentences were normal speed and some sentences were slower speed. Some sentences contained words that were related to the last word (e.g. “she drank a cup of tea”) and some did not (e.g. “she talked about the tea”). This was called ‘contextual information’.

Main findings:
Overall, the slower speaking rate did not affect the accuracy or response times of either the group with or without aphasia. However a few individuals with aphasia did benefit from the slowed speed. People with aphasia particularly benefited from the presence of contextual information. Foreign accented speakers need to provide additional contextual information to support the comprehension of people with aphasia. They can do this by establishing the topic when they speak.
Categorisation in aphasia

Jack Santos Silva
Rosemary Varley

Why important

Some scientists think words are important for some types of thinking e.g. making decisions about members of a category or ‘family’.

It is important to learn more about how aphasia affects thinking: does this happen to all people with aphasia, or certain types of aphasia?

Our participants: people with

Aphasia
Parkinson’s Disease
No brain injury

What participants did

People looked at a computer screen

Found pictures belonging to a category or ‘family’ (e.g. vegetables)

Named pictures

Main findings

People with aphasia were as accurate as people without aphasia.

People with aphasia were slower in making decisions.

What we learned

People with aphasia do not have problems in this type of thinking.

There are a number of possible reasons for slower decisions: e.g. people with aphasia are more cautious; problems in using hand/arm.
Colour and emotion: Measuring wellbeing creatively

Wellbeing includes emotions, such as happiness, but also interest, engagement, meaning and satisfaction.

Measuring wellbeing can show whether social policies and health interventions work.

People with aphasia find interviews or questionnaires about wellbeing that use words difficult.

Seven people with aphasia took part in the project, working with an artist to design a non-verbal measure. There were 3 workshops and home activities.

We used coloured stickers as they are easy to handle.

The team designed a Colour Diary and handbook of activities.

There is an exhibition of images made during the project at UCLH Arts Street Gallery (14th January – 21st February 2018).
Research about self-correcting errors when speaking

Why is it important?

Some people make mistakes when speaking.

They may know they have made a mistake or they may be unaware.

They may correct the mistake or pause.

Knowing how people respond to errors can help us improve how we deliver therapy.

What will it involve?

You will visit Chandler House at UCL 1 or 2 times to meet a researcher.

You will complete several tasks: naming pictures, telling a story, completing a questionnaire, and having a conversation with a conversation partner.

Interested in taking part?

Contact us for more information: 020 7679 4249 communicationclinic@ucl.ac.uk

Getting in touch...

If you would like to take part in any of our research projects, please get in touch.

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