# Department of Human Communication Sciences
## PGR Conference

**Tuesday 2\textsuperscript{nd} July 2013**

**ORAL PRESENTATIONS**

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<td>Challenges of Roma/Gypsy pupils with English as an additional language in British primary education – A mixed methods approach</td>
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<td>9.55</td>
<td>Caroline Haw</td>
<td>Collaborating with people with aphasia to develop accessible information materials</td>
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<td>10.20</td>
<td>Thomas Hopkins</td>
<td>The functional language and literacy skills of young offenders: A quantitative assessment</td>
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<td>10.45</td>
<td><strong>Coffee</strong></td>
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<td>11.15</td>
<td>Ramya Maitreyee</td>
<td>Temporal production of words across the menstrual cycle</td>
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<td>11.40</td>
<td>Lucy Dyson</td>
<td>Hidden competence in aphasia: can semantic knowledge be revealed using different assessment methods?</td>
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<td>2.00</td>
<td>Sajlia Binte Jalil</td>
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<td>2.25</td>
<td>Nor Azrita Mohamed</td>
<td>Joint engagement in interactions between Malay-speaking mothers and their typically-developing pre-school children</td>
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<td>Zain</td>
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<td>2.50</td>
<td>Eleftheria Geronikou</td>
<td>Speech processing and morphological development in Greek-speaking children</td>
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<td>3.15</td>
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All refreshments will be served in the Common Room
# POSTER PRESENTATIONS: 12.30 TO 1.55

**Group Room**

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<td>Joy Newbold</td>
<td>A phonetic study exploring difficulties in applying a speech outcome measure: proportion of whole word proximity (PWP)</td>
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<td>Jo Rees</td>
<td>Adaptation of the “therapy outcome measure” (TOM) for use with untreated cleft lip and palate patients in the developing world: environmental and cultural issues</td>
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<td>Mary Hartshorne</td>
<td>Evaluation of a whole school language programme in secondary schools: impact on students' learning and communication skills</td>
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<tr>
<td>Iñigo Casanueva</td>
<td>Personal adaptive listeners: personalised spoken dialogue systems for assistive technology</td>
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<td>Baharak Baranian</td>
<td>Speech characteristics of Farsi speaking children with repaired cleft palate</td>
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<td>Katharina M. Salgert</td>
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<tr>
<td>Sam Calladine</td>
<td>Developing a methodology to evaluate psycholinguistic-based intervention for two-year-old children with cleft-related speech sound difficulties (ssds)</td>
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**Clinic Room 3**

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<tr>
<td>Dinushee Atapattu</td>
<td>Lexico-syntactic retrieval and cohesive speech in Sinhala-English speaking bilingual aphasics</td>
</tr>
<tr>
<td>Anna Ibrahim</td>
<td>Frequency effects in translation tasks</td>
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<td>Dea Nielsen</td>
<td>Language and literacy development in children with English as an additional language: a longitudinal study of early education</td>
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<tr>
<td>Rachael Black</td>
<td>Using participative research methods to explore the experiences of parents and carers of people with PMLD</td>
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<td>Helen Cameron</td>
<td>Clinical and everyday interactions involving young children with autism</td>
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<td>Rosemary Gravell</td>
<td>A qualitative study of client's perceptions and expectations of rehabilitation and recovery following acquired brain injury</td>
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ABSTRACTS

SPEECH ACCURACY, RATE AND CONSISTENCY IN ARABIC SPEAKING CHILDREN

Noaf Al-Kheraiji
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Supervisors:  Professor Joy Stackhouse and Dr Ben Rutter

Background Investigating speech-motor skills is an essential part of assessing children with speech difficulties. Diadochokinetic tasks (DDK) are included routinely in the investigation of children's speech-motor skills as a measure of speech rate. However, accuracy and consistency of productions are developmentally more sensitive measures than rate. The majority of studies on speech-motor skills have been with English speaking children and as yet there is very little information about how typically developing Arabic children perform on speech output tasks.

Aims To develop assessment tasks for Arabic speaking children that will tap different levels of speech output processing. To pilot these tasks on typically developing Arabic speaking children in Sheffield.

Methods The following tasks were designed: silent DDK task (oral movements), spoken DDK tasks (syllable repetition), real word repetition, and non-word repetition. Real word and non-word stimuli were designed for the tasks; the stimuli increased in syllable length. The tasks were administered to 10 Saudi Arabic children age 7-8 years old. Rate, accuracy and consistency of their productions were scored.

Results There was no significant difference in accuracy scores between all tasks. In the syllable repetition task children became significantly inconsistent as the length of the syllable increased. Regarding rate, although children became significantly slower in each task as the syllable length increased they were significantly slower at repeating multi-syllabic non-words compared to real-words.

Conclusion & Implications Accuracy scores at 7-8 years may not be a sensitive psycholinguistic measure to differentiate between tasks. However, increasing syllable length of the syllable repetition task and non-word repetition task were more revealing, suggesting that these tasks were more challenging to the motor programming skills. After the pilot there were minor changes to the stimuli list. The next Phase of the study is to carry out the revised procedure with typical and atypical 3-5 year old Saudi children.

LEXICO-SYNTACTIC RETRIEVAL AND COHESIVE SPEECH IN SINHALA-ENGLISH SPEAKING BILINGUAL APHASICS

Dinushee Atapattu
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Supervisors: Dr. R. Herbert, Dr. P. E. Cowell

Introduction The asymmetrical effects on the languages of an aphasic bilingual and the subsequent patterns of recovery have ignited many questions on the underlying representation and control of language. The distinction between the linguistic environments is
thought to be a key factor that contributes to dissimilar observations between the languages of a bilingual aphasic (Kambanaros, 2009; Faroqi-Shah and Waked, 2010; Altman et. al. 2012). Unlike single word naming performance, discourse analysis may provide an opportunity for a more realistic assessment of word retrieval skills and of skills in cohesive speech.

_Rationale_ Sinhala possesses a number of unique lexico-syntactic features different to that of English. The similarities and differences between Sinhala and English may contribute in obtaining patterns of bilingual aphasic language errors less documented in cross-linguistic data, and facilitate subsequent assessment and treatment designs. _Aim_ To compare and contrast unit retrieval skills and information content between the languages of Sinhala-English bilinguals.

_Methodology_ Ten non-aphasic and ten stroke related aphasic Sinhala-English speaking bilinguals will be recruited. A standardised naming test and equivalent translation into Sinhala will be administered to assess single unit retrieval skills. Tasks for discourse analysis involve, for example, a sequence picture description, and a recorded conversation between the participant and a known person (friend/family). _Analysis_ Compare and contrast between normal and aphasic bilinguals to identify error patterns in single unit and cohesive speech, utilization of linguistic cues and methods of self-correction.

_Anticipated results_ The analysis will reveal potential novel bilingual aphasic error patterns, due to the unique opportunities opened up by the two languages. This is due to the differences in the structure and execution of Sinhala and English. Further, the separate analysis of micro-structural and macro-structural data may outline similar or distinct relationships between the different levels of language in Sinhala and English and their impact on the bilingual speaker.

Kambanaros, M. PhD (2010): Action and object naming versus verb and noun retrieval in connected speech: Comparisons in late bilingual Greek–English anomic speakers, Aphasiology, 24:2, 210-230

**SPEECH CHARACTERISTICS OF FARSI SPEAKING CHILDREN WITH REPAIRED CLEFT PALATE**

Baharak Baranian
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Supervisors: Professor Bill Wells, Dr Anne Harding-Bell

_Introduction_ Studies have shown that a history of cleft palate often affects speech production. While similar patterns of atypical speech production have been reported across a variety of different, mainly European, languages (Henningsson and Willadsen, 2011), studies on cleft speech production in typologically different, non-European languages, may provide important insights into how truly universal cleft speech characteristics are. Farsi, the national language of Iran, may present a particular and interesting challenge in speech production of individuals with cleft palate, on account of its phonological system. This report presents the preliminary results of an on going study, aiming to identify the speech characteristics of Farsi speaking children and to compare these with features reported in cleft palate research for other languages.
Method Speech samples were obtained from 21 Farsi-speaking children aged between 5 and 10, with a repaired cleft palate, and a control group of 5 typically-developing children, also aged between 5 and 10, all resident in Tehran. Audio and video recordings were made of the participants’ speech production in a variety of contexts including single word production and sentence repetition using a Farsi adaption of the GOS.SP.ASS (Great Ormond Street Speech Assessment: Sell, Harding and Grunwell, 1999). A descriptive research design, which involved perceptual phonetic analysis, using narrow phonetic transcription, was employed.

Results Preliminary results indicate that the Farsi-speaking children with cleft palate used a range of features previously identified as cleft type characteristics for other languages, for instance, linguolabial and interdental realisations. Some of the identified speech behaviours (e.g., realization of a tap as an approximant) are attributed to the phonetic inventory and phonological system of Farsi.

Conclusion and Discussion This study provides preliminary evidence that the Farsi language is susceptible to the same cleft-related articulatory and phonological characteristics as noted in English and other languages around the world. This supports the use of the Farsi adaption of the English-language GOSSPASS assessment. Further analysis is currently underway to identify whether in addition there are any features of the Farsi data that have not been reported for other languages.


USING PARTICIPATIVE RESEARCH METHODS TO EXPLORE THE EXPERIENCES OF PARENTS AND CARERS OF PEOPLE WITH PMLD

Rachael Black
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Supervisors: Dr J. Clegg and Dr S. Spencer,

Background “We live in a society that sees people like my daughter as worthless. Why then, would it be one that delivers high quality services?” (Mencap, 2001, p.3.) People with Profound and Multiple Learning Disabilities (PMLD) have complex support needs resulting from extremely delayed intellectual and social functioning and associated medical conditions (Bellamy et al 2010). Much of the care of adults with PMLD is carried out by their parents; with 60% of parents spending more than ten hours per day on basic physical care (Mencap, 2001). However there is very little research about the needs and aspirations of parents of people with PMLD (Jansen et al 2013).

Method Participative Action Research (PAR) has a long history of working with oppressed groups (Swantz 2008) and of giving voice to those often not heard. The lack of research focussing on the needs of parents and carers of people with PMLD indicates these are a group who have not had their voice heard and could be a prime group of people to use these kinds of approaches. PAR approaches involve working collaboratively as a group of co-researchers to -
• Define the research question and design
• Decide who will carry out which tasks
• Come together to reflect and share experiences
• Co-analyse data.

This project will explore the experiences of parents of people with PMLD by using participative research methods. Parents will be invited to form a group of co-researchers in collaboration with Rachael Black and this team will devise research questions. The research design will be planned by the group who will work collaboratively to meet the research aims. The next steps of the project include conducting focus groups with parents of people with PMLD to discuss the feasibility of such a project.


DEVELOPING A METHODOLOGY TO EVALUATE PSYCHOLINGUISTIC-BASED INTERVENTION FOR TWO-YEAR-OLD CHILDREN WITH CLEFT-RELATED SPEECH SOUND DIFFICULTIES (SSDS)

Samantha Calladine
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Supervisors: Professor Joy Stackhouse & Dr Thomas Muskett

Background  In the UK, a national standard of care requires children with cleft palate to have achieved normal speech by age five. However, a recent systematic review (Bessell et al., 2013) found a lack of evidence to support any one existing early intervention approach for cleft-related speech sound difficulties (SSDs). This PhD project builds upon a previous study of a psycholinguistic-based intervention for cleft-related SSDs in two-year-old children. It aims to identify and test hypotheses about the key components of effective early intervention and to develop a clearly specified clinical approach for subsequent evaluation.

The project consists of three phases:
1. Prospective analysis of existing video data to define the key components of task and stimuli design and therapist-child interaction
2. Semi-structured interviews with parents and therapists to define the model for delivery, including agent and dosage
3. Prospective cohort study to test the new intervention

This poster presents phase one and addresses two foci of analysis: a) a psycholinguistic framework is used to consider how task and stimuli design influence a child’s speech processing skills during intervention, and b) an interactional approach is used to consider how change is facilitated by the interaction between a therapist and a child within a therapeutic context.
Method  A longitudinal dataset of 86 pre-existing video recordings of two 2-year-old children with cleft-related SSDs receiving the intervention was collated. Seven recordings were selected at random and analysed. Qualitative and quantitative methodologies, informed by psycholinguistic and interactional theories, were developed to analyse change processes occurring during intervention. This poster presents these methodologies along with some examples of analyses. The plan for analysing the remaining dataset will also be presented.


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**CLINICAL AND EVERYDAY INTERACTIONS INVOLVING YOUNG CHILDREN WITH AUTISM**

Helen Cameron

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Supervised by Dr Tom Muskett and Dr Richard Body

**Background**  This study aims to examine the interactions of young children and their communication partners across two contexts: speech and language therapy (SLT) sessions and everyday activities at home. It will utilise method of conversation analysis to explore characteristics of clinical interaction and consider how such therapeutic interaction occurs within everyday activities, given that parents are frequently encouraged to act as facilitators of therapy for their children outside of clinical sessions.

**Method**  An inductive, qualitative research design will be utilised in this study. Five families of children with autism aged 2-6 years will be recruited from SLT departments across Ireland. Video recordings will be made of four routine SLT sessions and families will also make recordings of everyday interactions occurring at home between sessions. Potentially meaningful segments of data will be identified by watching the recordings and these sections will be manually transcribed and analysed using a conversation analytic approach entailing the fine-detailed examination of interactions.

**Results:** Findings are not yet available as data collection for this project has not commenced. It is expected that video recordings will be made in late 2013 to early 2014.

**Discussion**  Findings will be discussed in the context of existing research on interactions involving young children with autism. **Conclusion:** It is hoped that the findings of this project will contribute to our understanding of interactions involving young children with autism.

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**PERSONAL ADAPTIVE LISTENERS: PERSONALISED SPOKEN DIALOGUE SYSTEMS FOR ASSISTIVE TECHNOLOGY**

Iñigo Casanueva

Supervisors: Prof Phil Green and Prof Bill Wells

During recent decades significant improvements have been made in speech technologies, such as Automatic Speech recognition (ASR) and Spoken Language Understanding (SLU). Even so, state of the art of commercial Spoken Dialogue Systems (SDS) still rely on system initiative, handcrafted, Dialogue Management (DM) which makes the interaction with computers using spoken language very unnatural. Research during the last decade has focused in modelling the
dialogues statistically, such as modelling the dialogue as a Partially Observable Markov Decision Process (POMDP), and using Reinforcement Learning (RL) to optimize the policy via interaction with the users.

A Personal Adaptive Listener (PAL) is a device that belongs to an individual and adapts to the speech communication characteristics and preferences of its owner. Like human listeners, it does this whilst in use, does it quickly and extends its utility over time. The technology adapts to its user, rather than the other way round. The PAL will allow its owner to control assistive technology and connect to the digital world (shopping, banking, booking) by voice.

HIDDEN COMPETENCE IN APHASIA: CAN SEMANTIC KNOWLEDGE BE REVEALED USING DIFFERENT ASSESSMENT METHODS?

Lucy Dyson  
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Supervisors: Dr Ruth Herbert, Dr Richard Body

Background  Lexical semantic deficits in aphasia affect peoples’ ability to understand the meaning of spoken and written words. Assessment of lexical semantic deficits typically involves word-picture matching and synonym judgements. These test semantic knowledge explicitly and require cognitive skills such as attention and short-term memory. Some also lack control of visual characteristics and psycholinguistic variables such as frequency. Low scores on word-picture matching assessments may therefore result from a range of different underlying impairments. Indirect assessment methods such as priming and eye-tracking can however reveal underlying intact implicit semantic knowledge. The current project aims to develop a series of psycholinguistically controlled tests that vary in terms of explicit and implicit processing, and cognitive load. These will be explored in relation to language and cognitive ability in order to improve semantic assessment in aphasia, enabling more specific diagnoses to be made regarding apparent lexical semantic deficits.

Research questions
1. Do control participants show within-participant differences across a range of semantic tests?
2. Do people with aphasia show within-participant differences across a range of semantic tests?
3. Do any differences in performance relate to scores on tests of cognition and the implicit or explicit requirements of the semantic tests?

Method  Three semantic assessments have been designed and will be trialled on control participants and people with aphasia. The tasks require a range of explicit processing and cognitive load. They include word to picture matching, word to picture verification and a semantic priming task. In addition participants will complete cognitive assessments, and participants with aphasia will complete detailed language assessment.

Theoretical and clinical implications  The project will result in enhanced understanding of semantic processing. The development of psycholinguistically controlled, implicit tests with reduced cognitive load will improve semantic assessment in aphasia, and therefore improve diagnosis and rehabilitation decisions.
SPEECH PROCESSING AND MORPHOLOGICAL DEVELOPMENT IN GREEK-SPEAKING CHILDREN

Eleftheria Geronikou
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Supervisors: Dr Maggie Vance, Professor Bill Wells

This project aims to explore the relationship between short term memory, speech perception and production and language development, in particular morphological development, in Greek-speaking children. It is suggested that speech perception (Tsao et al 2004, Ziegler et al, 2005) including speech discrimination and integrity of phonological representations (Chiat, 2001) may influence language acquisition and language impairment. Greek is a morphologically rich language and the majority of words are multi-syllabic, which are likely to be more taxing of the speech processing system. Exploring the development of speech and language in Greek-speaking children provides an opportunity to investigate these relationships. The objective of this study is to identify which components of the speech processing system have more impact on language, and in particular morphological, development.

Two groups of typically developing children aged 3;0 and 4;5 years respectively and a group of atypically developing children aged between 3;0 - 4;5 years participated. Children were assessed longitudinally at three assessment points with a six months intermission. At each assessment point published language assessments and experimental tasks were used. The Diagnostic Verbal IQ test (Stavrakaki & Tsibli 2000) a Greek language comprehension and production test that measures language competence was used as a baseline. A number of morphological phenomena included in this test were chosen to devise experimental stimuli that reflect the morphological and / or phonological properties of interest e.g. tense, possessive pronouns, irregular plural. These stimuli were used in tasks of speech perception including the integrity of stored representations, and word and non-word repetition, with matched items across tasks. A word span task has been devised based on the number of syllables and structure of Greek words to measure short-term memory.

The results of assessment across time points are available and will be presented and analyzed to identify relationships between short term memory, input and output speech processing and possible interactions between levels of processing, and the acquisition of morphology and phonology.

A QUALITATIVE STUDY OF CLIENT’S PERCEPTIONS AND EXPECTATIONS OF REHABILITATION AND RECOVERY FOLLOWING ACQUIRED BRAIN INJURY

Rosemary Gravell
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Supervisors: Professor S Brumfitt & Dr R Body

Background The context of the study is a non-residential community rehabilitation service for adults following Acquired Brain Injury (ABI). It is recognised that clients and clinicians have different knowledge, assumptions and beliefs (eg Ferguson et al 2010). Increased knowledge of clients’ experiences is a crucial step in providing effective services. No studies are known that
look at expectations prior to rehabilitation. Many studies exclude people who have communication disorders (Salter et al 2008).

**Method** A qualitative research methodology (Grounded Theory) was chosen as most appropriate to the research question. Data collection was by semi-structured interviews, which were transcribed and analysed in line with grounded principles (Charmaz 2006). Following an exploratory phase study of three interviews, the main study has commenced. To date seven clients have been interviewed and data analysed.

**Results** A preliminary model has been developed, relating stages of recovery and expectations. Initially people are unprepared, and there is a need to make sense of the experience. Pre- and post- morbid beliefs and experiences influence this. There is a relationship between beliefs and expectations of recovery (hope, doubt, despair, acceptance) and time. Expectations of rehabilitation encompass services, self and family/others. Making sense of the future and constructing meaning can only develop when people reach a level of acceptance.

**Discussion & Conclusions** The study is not at a stage at which firm conclusions can be drawn. Ethical approval has been obtained for a total of 24 participants (or saturation), and the model will be further refined in line with Grounded principles, by theoretical sampling (Glaser & Strauss 1967).


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**EVALUATION OF A WHOLE SCHOOL LANGUAGE PROGRAMME IN SECONDARY SCHOOLS: IMPACT ON STUDENTS’ LEARNING AND COMMUNICATION SKILLS**

Mary Hartshorne
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Supervisors: Dr Judy Clegg, Dr Ruth Herbert

**Background** The development of speech, language and communication (SLC) continues through school, adolescence and into adulthood. This development underpins cognitive, emotional and social development, which are crucial for learning. However, many pupils in secondary schools have speech, language and communication needs (SLCN), particularly in areas of social deprivation.

**Method** This project aims to evaluate the impact of I CAN Secondary Talk: a whole school language programme over a three year period. It will compare the impact of the programme in two secondary schools in areas of deprivation: one school participating in Secondary Talk, the other not participating.

**Results** Baseline data has been collected from 10 pupils, who staff identify as having varying levels of language ability, in the intervention school at two time points before implementation of the programme. A range of pupil assessment has been carried out exploring language competence, functional communication and aspects of cognition.

Data analysis is at an early stage; this poster presents emerging findings:
• Pupils with stronger language skills find it easier to reflect on their learning strengths and difficulties, and to identify strategies to help them learn
• Pupils’ language levels were generally low
• No students reported ‘understanding what teachers say’ to be easy for them
• Specialist support for pupils with SLCN in this school is extremely limited.

Discussion/conclusions Initial data analysis reflects what is known about the link between language and social disadvantage. The level of support for pupils’ language and communication is also typical of the national picture, despite the fact that pupils identify difficulties understanding classroom language. Carrying out evaluations of this kind in secondary schools is challenging, particularly at a time of widespread change in the education system.

1 Spencer S, Clegg J. And Stackhouse (2012) Language and disadvantage: a comparison of the language abilities of adolescents from two different socioeconomic areas IJLCD vol 47 no 3

CHALLENGES OF ROMA/GYPSY PUPILS WITH ENGLISH AS AN ADDITIONAL LANGUAGE IN BRITISH PRIMARY EDUCATION – A MIXED METHODS APPROACH

Christina Haupt
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Supervisors: Dr Judy Clegg, Professor Joy Stackhouse

Background In the UK, children from Roma/Gypsy (RG) backgrounds are reported to experience difficulties in accessing education (Wilkin, Derrington & Foster, 2009). Their achievements are consistently found to be below National Expectations (DfES, 2005). However, little is known about what stops them from accessing education more successfully, other than the challenge of having English as an Additional Language.

Aims The aims of the project are to (1) to identify the challenges RG children may experience in engaging with education, and (2) to understand how RG children’s English language skills impact on their learning.

Method Participants were 18 Eastern European RG pupils (5 to 11 years) in one primary school in the North of England. Their receptive and expressive English language skills were assessed and analysed quantitatively. Additionally, expressive English was analysed qualitatively using the Systematic Analysis of Language Transcripts (SALT) software. Participants were interviewed about their educational experiences, and observed during English lessons in the classroom. Class-teachers provided the participants’ National Curriculum levels for English and Maths.

Results Receptive and expressive English language skills were below age expectations with variation across the 18 participants. Specific difficulties were evident in the correct use of tenses, gender, obligatory subjects/objects/auxiliaries and 3rd person singular. Overall, participants perceived school positively. They especially valued EAL support and small group work, which they recognized as too limited in amount and frequency. In the class context most participants were affiliated to groups of ‘lower than average’ achievement. National Curriculum levels revealed bigger gaps in the educational attainment for older participants (above 8;6 years).
Discussion and Conclusion: In addition to EAL, a number of challenges could be identified to impact on RG children’s learning. Recommendations include more frequent and tailored language support that continues into Key Stage 2 and 3. Future research is necessary to develop our understanding of RG children’s needs and how to address them effectively.


**COLLABORATING WITH PEOPLE WITH APHASIA TO DEVELOP ACCESSIBLE INFORMATION MATERIALS**

Caroline Haw  
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Supervisors: Dr Ruth Herbert and Professor Shelagh Brumfitt.

After a stroke, people with aphasia need accessible information, as stated in national stroke guidelines (Royal College of Physicians, 2012). Researchers have defined accessibility principles, and a growing evidence base now exists (e.g. Rose et al., 2012). However, no research has trialled real information developed on the basis of this evidence; and no specific and freely-available guidelines for producing information accessible exist.

This project aimed to explore the perceptions of PWA to new information designed on the principles of best practice, with two objectives:
- To develop accessible and acceptable stroke information materials.
- To develop guidelines for people making accessible information for PWA, using the results from the first stage of the study.

Through a literature review, we identified key principles for accessible information. We then worked with a graphic designer to develop a template incorporating clear layout, simple language and relevant images. Fourteen people with aphasia participated in focus groups to review the materials. Discussions were transcribed, and analysed using Framework Analysis (Richie, Spencer and O’Connor, 2003). Participants’ responses to specific aspects of the materials were converted to ordinal scales for quantitative analysis. Through an iterative process the final template and materials were agreed. Finally, we used the resulting template as a format for accessible information, and devised Guidelines for making similar materials, which we user-tested with Speech and Language Therapists and voluntary sector staff.

In the qualitative analysis five broad themes emerged: visual clarity, amount of information, suitable design, clarity of meaning, and an overarching theme “everyone’s different”. Analysis of the quantitative data supported these finding. User-testing of the draft Guidelines resulted in the final published version (Herbert et al., 2012).

This research supports previous findings, but shows the importance of designing information which is accessible and acceptable, with attention to visual, cognitive and aesthetic factors as well as language. Further research to explore the training needs of staff in designing tailored information for individuals with aphasia is needed.
THE FUNCTIONAL LANGUAGE AND LITERACY SKILLS OF YOUNG OFFENDERS: A QUANTITATIVE ASSESSMENT

Thomas Hopkins
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Supervisors: Dr Judy Clegg and Professor Joy Stackhouse.

Background Research to date reveals that young offenders who are attending Intensive Intervention programmes or who are in custody often have speech-language and communication difficulties (Bryan, 2007, Snow and Powell 2008). This finding is based on the use of standardised language tests, which may be problematic in measuring adolescent language due to issues of age appropriateness and functionality (Bryan 2007).

The current project aims to assess the functional language, communication and literacy abilities of adolescent young offenders on court orders. This research is part of a larger project that aims to compare youth offenders’ language and literacy skills to a control group of non-offenders matched on years of education, non-verbal IQ and social dis-advantage.

Method An opportunity sample of 51 young offenders aged 13-18 years were identified and recruited via the Sheffield Youth Offending Service (YOS). A variety of language assessments appropriate for the adolescent age group were used to measure expository discourse, listening comprehension, word reading, reading comprehension, spelling, writing, non-verbal IQ and pragmatic ability. In addition, a selection of words and matching definitions were designed to assess their knowledge of vocabulary commonly used within the criminal justice system.

Results The young offender group performed within 1-1.5sd below the mean score expected for their age on all the language assessments. However, the group performed well on the criminal justice vocabulary assessment, scoring close to the maximum score. Multivariate Analysis of Variance revealed no significant difference in language performance respective of gender, looked after status, ethnicity and crime committed (p>0.05).

Discussion The quantitative scores show a high incidence of language and literacy difficulties in young offenders on court orders, with 75% of the group scoring at least 2sd below the mean on two or more of the language tests. This finding not only highlights the need for speech-language intervention to be available within the criminal justice service but also prior to this, within secondary education.

The influential Revised Hierarchical Model of bilingual lexical processing (RHM) (Kroll and Stewart, 1994) proposes existence of two lexicons: L1 and L2 with selective access and asymmetrical links between them. Translations L1→L2 are claimed to require more semantic mediation, are slower, and disrupted by semantic categorisation of the stimuli. L2→L1 translations are reported to be faster and immune to semantic interference as L1 forms are retrieved directly from lexical memory without semantic mediation. However, translation asymmetry might also be explained by the relative frequency of L1 and L2 forms in the case of unbalanced bilingualism. Translation from L1→L2 involves access to a lower frequency form. It is therefore slower than L2→L1 translation where access to a higher frequency form is required.

This hypothesis was explored in three experiments. The first two experiments tested monolingual English-speaking participants, who “translated” between synonymous pairs where one member of the pair was of markedly higher frequency than the other. Word lists were either random or semantically categorised.

The results indicated that the predictions of the RHM were replicable within a language. Translations from Low Frequency → High Frequency were faster than High Frequency → Low Frequency. Low Frequency → High Frequency translations were also insensitive to semantic categorisation, while translations in the reverse direction were affected. Experiment 3 examined the frequency-based hypothesis in bilinguals. Two groups of Russian(native)-English bilingual speakers translated randomly organised and semantically categorised lists of nouns in both directions. Group 1 consisted of speakers who used Russian more frequently. Group 2 were predominant users of English. The preliminary results showed that Group 2 bilinguals did not differ in speed when translating random words in both directions. However, they showed sensitivity to semantic categorisation in L2→L1. Group 1, on the other hand, fully replicated the RHM asymmetry. The implications are discussed.

language does not intrude when inappropriate), pragmatic behaviour (taking into account the language preferences of communication partners), planning, and strategizing (deciding on which language medium best highlights a point of importance), are necessary for this to happen. Bilingual adults with traumatic brain injury (TBI) may have deficits in these areas and might display inappropriate code-mixing as compared to the more socially acceptable patterns displayed in the non-TBI population.

Research Question: What are the similarities and differences in the pattern and amount of code-mixing used by bilingual adults with vs. without TBI?

Method: Four 5-minute conversations (between two non-TBI and two TBI-familiar partner dyads) were recorded within the clinical setting and transcribed using CA methodology. The patterns of code-mixing observed in the conversations were analysed for similarities and differences in terms of amount and function.

Results: Differences in code-mixing patterns appear to exist not only between TBI and non-TBI dyads, but also between the non-TBI dyads. Factors such as language proficiency seem to influence the amount and nature of code-mixing in non-TBI samples. In the TBI population, an interesting observation includes inappropriate code-mixing with a non-bilingual communication partner in the presence of another who is bilingual.

Conclusions: Further conversation samples are required to ascertain if code-mixing patterns observed in these four samples are similar across a larger population of TBI and non-TBI conversations.

TEMPORAL PRODUCTION OF WORDS ACROSS THE MENSTRUAL CYCLE

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Background & Objective: Verbal fluency output has been analyzed using global measures, such as the total number of words (Machado and Fichman, 2009). Little research has examined word fluency or its strategies as they unfold over the typical one minute test period. The present study investigated the temporal distribution of words on the verbal fluency task in young healthy women across three menstrual cycle phases.

Design: The three cycle phases studied allowed investigation of word fluency when estrogen/progesterone were low (menstrual), estrogen was high (periovulatory), and estrogen/progesterone were high (midluteal). A cross-sectional design was used to eliminate practice effects.

Methods: Seven women each in the menstrual and midluteal phases and six in the periovulatory phase were included. Letter fluency data were obtained from an existing database (Cowell et al., 2011). Temporal analysis for durations of word production was conducted using PRAAT (Boersma & Weenink, 2011). Dependent measures were the numbers of new words, clusters and switches produced (Troyer et al., 1997) across three equally divided time frames (T1, T2, T3) within one minute. ANOVAs were conducted for each dependent measure with Time as a repeated measure and menstrual cycle Phase as a grouping factor.

Results: Time was significant for new words (p<0.01), with most new words in T1. Time x Phase showed a marginal trend (p<0.10); new words were highest in the periovulatory phase but only
during T1. Time was significant for switches and clusters (p-values<0.01). Switches were highest in T2 and clusters were highest in T1.

**Discussion:** Greater word production in the initial 20 seconds may be associated with high levels of estrogen (peri-ovulatory) which optimizes word fluency based on a combined use of clustering and switching.

**Conclusion:** The findings provide preliminary evidence of the time frame during which verbal fluency is most affected by hormonal changes across the menstrual cycle.


**HOW DOES SPELLING SSKEJ, DFGEP, DVLP, DEVELOP, DEVELOP?**

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During literacy development children learn how to represent their spoken language in written form through the acquisition of a symbolic code. Two factors have been shown to affect the acquisition of this code, the orthographic transparency, and the phonological complexity of the language (Goswami 2008). English has both a complex orthographic system, and a complex range of syllable structure patterns which presents dual challenges to children learning to read (decode) and spell (encode). Development of orthographic knowledge builds on lexical representations established during speech and language development, and within an alphabetic system, requires the child to develop connections between speech sounds and letters.

This research investigates the development and role of phonologically mediated spelling attempts in learning to represent the spoken word in written form. It aims to explore the role of phonological processing skills in the development of lexical representations for spelling. It asks whether the phonological constructs of syntagmatic and paradigmatic relationships can be used to measure and describe the child’s ability to perceive (input processing) register (stored lexical representations) and represent (output processing) the intra-syllabic structure of the target word, and whether those same constructs can be used to measure and describe patterns of change over time in the accuracy and levels of phonological sensitivity within a child’s spelling attempts.

The two stages of the research will involve the development of methods of assessing and profiling developmental spelling attempts using psycholinguistic principles and frameworks, which will be used to collect data from typically developing children in mainstream schools. The second stage is to design and implement a series of intervention studies based on the collation and analysis of the Phase 1 findings.
The results will contribute normative data on the range and nature of phonologically mediated spelling attempts in typically developing children and be used to inform practice, and support the development of spelling skills.

**LANGUAGE AND LITERACY DEVELOPMENT IN CHILDREN WITH ENGLISH AS AN ADDITIONAL LANGUAGE: A LONGITUDINAL STUDY OF EARLY EDUCATION**

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Recent years have seen a growing number of children entering the UK education system from homes where English is either not the primary language or not spoken at all. Recent statistics suggest that approximately 16.8% of all pupils attending primary school in the UK are learning English as an Additional Language (EAL; School Census Statistics, 2011), and there is growing evidence that these children underachieve academically as compared to their monolingual English-speaking peers. While the explanations for the academic difficulties of children with EAL are likely to be complex and multifaceted, weak language skills are consistently cited as an important risk factor for these children. Despite this, there has been very limited research into early language and literacy development of children with EAL in the UK.

The current research will follow up the development of a group of children with EAL who previously participated in a nursery-based intervention study (N = 94). The children come from diverse linguistic backgrounds and the current study will follow them from reception (4-5 years) until the middle of Year 2 (6-7 years). In addition, a group of monolingual English-speaking children from the same schools will be recruited to allow for comparisons between monolingual and bilingual development. Broad measures of language skills will be taken, and known predictors of monolingual literacy development (including letter-sound knowledge, phonological awareness, and rapid automatized naming) will be administered. The two groups will be compared both in terms of the gains made over the course of the study as well as static performance levels. In addition, the predictors of both groups’ literacy skills (word reading and reading comprehension) will be compared. These findings have implications for theories of language and literacy development in sequentially bilingual children, as well as practical relevance for supporting young EAL children entering school.

**A PHONETIC STUDY EXPLORING DIFFICULTIES IN APPLYING A SPEECH OUTCOME MEASURE: PROPORTION OF WHOLE WORD PROXIMITY (PWP)**

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*Background* Ingram and Ingram (2001) advocate a clinically attractive procedure for measuring intelligibility at the level of the whole word rather than the segment. PWP measures the length and accuracy of the child’s realisation in relation to the target word. Ingram and Ingram (2001) outline six sampling procedures including the use of 25 or more
items classified as lexical class words (i.e. nouns, verbs, prepositions, adjectives and adverbs) taken from conversational speech contexts.

**Method**  In this study, PWP was investigated using conversational speech data from four children aged 6-7 years with speech difficulties and associated intelligibility impairments. Detailed phonological and phonetic analysis of both single words and multiword utterances was employed.

**Results**  Several contentions with the measurement procedures emerged. These include lexeme by lexeme analysis and the inability of the measure to differentiate typical and atypical under-specification in connected speech (Newton, 2012). PWP relies on segmental correctness judgments, in this way it fails to take account of longer domain influences on single word productions.

**Discussion**  Clinical implications include the need to consider sampling contexts for assessment and to account for individual differences between children when selecting appropriate procedures as outcome measures.

**Conclusion**  PWP may contribute to a single word speech analysis for children with difficulties affecting longer words or consonant clusters. It may be less appropriate to apply this measure to connected speech contexts. This study highlights the importance of qualitative approaches to connected speech analysis (Howard, 2013).


**ADAPTATION OF THE “THERAPY OUTCOME MEASURE” (TOM) FOR USE WITH UNTREATED CLEFT LIP AND PALATE PATIENTS IN THE DEVELOPING WORLD: ENVIRONMENTAL AND CULTURAL ISSUES**

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**Background**  Based on the ‘Therapy Outcome Measure’ (TOM), this paper develops an outcome measure which reflects the less tangible psychosocial features affecting individuals with untreated cleft lip and/or palate (CLP) for use in the developing world. Owing to limited resources many cases of CLP in the developing world remain untreated. Whilst there is a plethora of research reporting the physical outcomes following treatment of CLP infancy, little attention has been paid to the impact of late intervention for CLP in adulthood. Since policy makers and fund-holders rely on available evidence to direct their limited resources, the limitations of the research in this field are potentially inhibiting the provision of funding for treatment of adults with CLP. In addition, the available research focuses on speech analysis at a phonemic level which fails to acknowledge the psychosocial aspects of untreated CLP such as difficulty with daily communication, social exclusion, nasal regurgitation, emotional anxiety
and poor educational and employment potential are only alluded to anecdotally. This raises two issues: Firstly, can an outcome measure be developed which reflects changes in personal communication skills and social functioning following late palate repair rather than focussing the impairment in isolation? Secondly, can the outcome measure be administered successfully without the need for highly trained Speech and language therapists?

Method The research was conducted over a three week period in a cleft centre in Karnataka state India. Focus groups and informal interviews were used to collate information regarding aspirational, emotional, functional, educational and financial factors associated with untreated CLP. The participants included 11 individuals who had experience of untreated CLP in adolescence or adulthood along with 16 family members. This information was used to produce an adapted version of the TOM (CP-TOM) for use as a monitoring and benchmarking tool in relation to treatment of CLP in the developing world. The viability of the CP-TOM was then tested by 6 International medical students comparing 7 pre-operative and post-operative hypothetical case scenarios.

Results The CP-TOM proved straightforward to use and demonstrated highly significant differences between the pre-operative and post-operative case scenarios (p<0.005). There was good inter-rater percentage reliability of 0.7 in all cases and the Kappa scores were above 0.7 sixty-six percent of the time.

Conclusion The CP-TOM shows potential as a Global tool for measuring physical and psychosocial outcomes for untreated CLP in a research environment. Further exploration is required in order to ascertain whether the CP-TOM can be shown to be accurate, robust and reliable both in different test environments and in the diverse setting of clinical practice.

PHONOLOGICAL ACQUISITION, DISORDERS AND TREATMENT EFFECTS IN TURKISH-GERMAN BILINGUAL CHILDREN

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Background Data on the typical and atypical bilingual speech acquisition are crucial prerequisites when evaluating bilingual children’s speech skills (e.g. Gildersleeve-Neumann et al., 2008). Information on the Turkish-German bilingual speech acquisition is very limited and also, no specific speech intervention approaches for this language combination are available (Fox-Boyer, 2012). Usually, assessments and therapy methods for monolingual German-speaking children are applied. The effectiveness of a monolingual intervention approach in bilinguals, however, has only been studied in a few single-case studies so far (e.g. Holm & Dodd, 2001; Ray, 2002).

Research questions
• What are the typical and atypical speech patterns found in Turkish-German bilingual children?
• Does their symptomatology differ from speech disordered monolingual children of each language?
• Is a monolingual phonological intervention approach effective in bilingual children with speech difficulties, and if so, do transfer effects occur from L1 to L2?

**Method** The project includes three studies which will take place successively. 100 typically developing Turkish-German bilingual children aged 3;0-4;11 years (study I) and 50 Turkish-German bilingual children with speech difficulties aged 3;0-5;11 years (study II) are assessed on their phonological skills with single-word naming tests in both languages. Their speech patterns will be analysed and compared with readily available data on monolingual children of each language. Furthermore, 5-10 Turkish-German bilingual children with a phonological delay/disorder aged 3;0-5;11 years will receive phonological therapy in German (study III). Pre-, mid- and post-treatment assessments in both languages will provide data on their progress and potential transfer effects.

**Prospective impact** The data on the typical and atypical phonological acquisition in Turkish-German bilingual children will facilitate the diagnostic process of their speech difficulties by SLTs and paediatricians. The outcomes of the intervention study will reveal valuable information for future intervention in Turkish-German bilingual children with speech difficulties.


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**JOINT ENGAGEMENT IN INTERACTIONS BETWEEN MALAY-SPEAKING MOTHERS AND THEIR TYPICALLY-DEVELOPING PRE-SCHOOL CHILDREN**

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Joint engagement in mother-child interaction has been widely investigated (e.g., Burns, 2008; Kim & Mahoney, 2004; Siller & Sigman, 2002). Past studies have commonly employed experimental; observational, or questionnaire-based design; and usually examined joint engagement abilities (such as initiating, or responding to bids for joint engagement) in segregation from their natural interactional context (e.g., Adamson et al., 2001; Farrant, Maybery, & Fletcher, 2010; Go & Miraflorres, 2009). Joint engagement is social in nature and requires reciprocal actions between the participants of an interaction (Kidwell & Zimmerman, 2007), however, the mutual contributions and influential roles of mothers and children as active participants of interactions have been limitedly studied. This study applied Conversation Analysis approach to explore how Malay-speaking mothers and their preschool children aged between 3 years to 5 years 11 months regulate their behaviours communicatively in negotiating joint engagement during interactions. The current study also aimed to investigate how the mothers and children affect each other in interactions, and establish or
refuse shared engagements. The findings indicate that during interactions, both mothers and children actively monitor, and variably co-ordinate with and/or resist, one another’s actions during bids for joint engagement. The data analysis also shows that the children are able to display their acceptance, rejections and non-acceptance of the bids for joint engagement efficiently. Findings and questions arose from the current project will be used in developing the main phase of the study which will involve children with autism spectrum disorders.


