

## THE 3RD INTERNATIONAL CONFERENCE ON TEACHING DEAF LEARNERS 2019



### INDEX

#### THURSDAY November 7th

1. Amy Szarkowski & Evelien Dirks - Differences in parental self-efficacy and parental involvement between fathers and mothers: implications for early intervention
2. Anat Zaitman-Zaid & Tove Most - Social support from teachers and peers, pragmatic abilities, and school functioning among deaf or hard of hearing and hearing adolescents
3. Conja Adriaanse & Lizet Ketelaar - Vocal development of babies with hearing loss
4. Claudia Becker - Promoting deaf and hard of hearing children's theory of mind and emotion understanding (ProTom) – development of an evidence-based training program
5. Iva Hrastinski Luka Bonetti et al - Parental perspectives on their child's hearing loss diagnosis and intervention process
6. Jennifer Beal - Language assessment, sign language standards, and evidence-based instructional strategies: completing the puzzle
7. Joy Rosenberg – Innovations in research-based TDL best practice
8. Kathryn Crowe & Mark Guiberson - Professional perspectives on supporting multilingual children with hearing loss
9. Kimberley Peters, Jessica Beer et al - Theory of mind acquisition in children who receive cochlear implants early: Relationships among age at implantation, language skills, and ToM
10. Luka Bonetti - The relations between working memory functioning and language outcomes in pediatric cochlear implant users
11. Lynn McQuarrie & Charlotte Enns - Signed language phonological awareness Instruction and the acquisition of sign and print vocabulary in bilingual deaf children
12. Lynn McQuarrie, Charlotte Enns et al – Dual language vocabulary apps: Using digital games to enhance language and literacy learning
13. Nynke Dethmers - Psychological well-being of Deaf students
14. Rosanne van der Zee, Angela Stevens et al - Feelings and their meanings: a study on socio-emotional functioning in school-aged children with and without hearing loss
15. Claudia Blankenstijn - Narrative Language Therapy® in pictures in deaf and hard of hearing children with psychiatric disorder
16. Ben Elsendoorn, Janet Wolters et al - Recognizing and interpreting emotions in a serious game

#### FRIDAY November 8th

1. Andrea Salins, Greg Leigh, et al - The effect of orthography provision on oral vocabulary learning in hard of hearing children
2. Anique Schüller - Native and non-native signers' performance on a sentence repetition task for Dutch Sign Language
3. Bernadatte Namirembe - An ecological approach in training teachers for deaf learners in Uganda
4. Charlotte Enns & Lynn McQuarrie - Signed language assessments: towards equity in language testing for bilingual deaf students
5. Claudia Becker, Patricia Barbeita et al- Discourse competences of deaf children – the interdependency of sign language acquisition and theory of mind
6. Fiona Kyle, Katie Manson et al - Early phonological, grammatical skills and emergent literacy in preschool deaf children
7. Hindy Stern & Dalia Ringwald-Frimerman - Shared-reading events with deaf and hard of hearing preschoolers in narrative and expository (ne) genres
8. Iva Hrastinsky, Marina Milkouric et al - Family-centered bilingual bimodal intervention and early cochlear implantation: a case study
9. Kathryn Crowe, Sharynne McLeod, et al - Monitoring deaf and hard of hearing children's speech skills in the classroom
10. Kirsten van der Heuij - Students in higher education
11. Laura Monroy, Eva Gutierrez et al - Automatic use of phonological codes during processing of written and fingerspelled words in deaf readers of Spanish
12. Nancy Norman - Itinerant teachers of deaf and hard of hearing learners: The role of teacher social and emotional competence
13. Sacha Couvee - Precursor measures for word decoding
14. Vera Kolbe - Culture and language sensitive test adaptation – Production test narrative competences in German Sign Language (DGS)

## THURSDAY NOVEMBER 7<sup>TH</sup>

### 1. Amy Szarkowski & Evelien Dirks - Differences in parental self-efficacy and parental involvement between fathers and mothers: implications for early intervention

*Purpose:* The importance of family involvement in early intervention (EI) is understood to be vital to promoting optimal child development outcomes. In providing EI for children who are deaf and hard of hearing (DHH), engagement of the family aligns with *best practices* in the field (Moeller et al., 2013). Yet, much of the research related to EI for DHH children highlights mothers. Recently more attention has been given to the role of fathers in EI. The present study explores parental self-efficacy and parental involvement in mothers and fathers in EI for DHH children in the Netherlands.

*Methods:* Parents of DHH children in EI completed questionnaires about parental self-efficacy a parental involvement and satisfaction.

*Results:* Study is ongoing. Results of the study will be compiled well in advance of the November 2019 conference.

*Implications:* It is anticipated that the results of this study will lead to implications for EI providers.

### 2. Anat-Zaid & Tove Most - Social support from teachers and peers, pragmatic abilities, and school functioning among deaf or hard of hearing and hearing adolescents

Many adolescents who are deaf or hard of hearing (DHH) who use spoken language experience school and social challenges. Studies demonstrated the positive contribution of pragmatic abilities to DHH children's social-emotional functioning. The important role of teachers and peers in promoting students' engagement in academic and social activities and overall adjustment has been acknowledged. This study examined pragmatic abilities and perceived social support from teachers and peers among DHH and hearing adolescents and their contribution to school functioning.

67 adolescents (33 DHH) participated. Adolescents reported on peers and teachers support and school engagement. Teachers reported on adolescents' pragmatic and academic abilities and externalizing and internalizing behaviors.

Findings indicated that DHH adolescents had higher levels of school engagement and internalizing symptoms than hearing adolescents. Teachers' support was associated with increased school engagement and decreased internalizing and externalizing behaviors. Pragmatic ability was positively associated with increased academic abilities and decreased internalizing behaviors.

### 3. Conja Adriaanse & Lizet Ketelaar - Vocal development of babies with hearing loss

As a result of early intervention and improved technologies in the past decade, a new generation of babies with hearing loss has arisen. We still know little about the vocal development of this generation children with hearing loss in the Netherlands.

What does the vocal development of this generation look like and which factors, such as degree of hearing loss and hearing aid use influence this? To answer these questions, the NSDSK has started a longitudinal study in which the vocal development of 30 children with and 25-30 children without hearing loss (between 6 and 18 months of age) are compared. Furthermore an intervention is developed to stimulate the vocal development of these children. In this poster, final results of the longitudinal study will be presented.

### 4. Claudia Becker - Promoting deaf and hard of hearing children's theory of mind and emotion understanding (ProToM) – Development of an evidence-based training program

ProToM is a partnership of 11 universities and schools from four European countries. It develops a training program for the development of Theory of Mind and Emotion Understanding as well as the associated sign language and spoken language competencies in deaf and hard of hearing children.

The program is strictly theory-based and follows the different stages of development of ToM and the nine components of EU (Peterson et al 2005, Pons et al. 2004). It has a modular design that provides different methodical approaches to accommodate diversity among the pupils.

The starting point was international and own studies, which showed that deaf and hard of hearing children show considerable developmental deficits both in ToM and in EU (e.g. Becker et al 2018). To test the effectiveness of ProToM, a pre-post test design is carried out that measures the extent of the change in competencies in ToM/EU and the syntactic/lexical skills.

## 5. Iva Hrastinski, Luka Bonetti & Marina Milković - Parental perspectives on their child's hearing loss diagnosis and intervention process

Although there are many empirically validated factors that might influence language, cognitive and socio-emotional development of children with hearing loss, parental involvement (Moeller, 2000; Watkin et al., 2007) and their perspectives on their deaf and hard of hearing children's diagnosis and intervention process is one that is important but often under examined. The aim of this paper is to explore parental experience and perspectives on the quantity and quality of counseling regarding hearing loss diagnosis, communication options and habilitation approaches using a questionnaire and structured interviews with parents of DHH children. Questionnaire data of fifteen parents were obtained. Seven parents participated in video-recorded interview. Preliminary findings suggest that families did not receive complete information regarding understanding of hearing loss, and technical and functional aspects of hearing devices. Also, almost all families experienced non-neutral counseling regarding communication options, with the emphasis on development of listening and speaking skills only. Finally, most families did not make intervention decisions based on informed choice.

## 6. Jennifer Beal - Language assessment, sign language standards, and evidence-based instructional strategies: completing the puzzle

Legislation and best educational practices in the United States call for data-based instruction for all students, including deaf students (Every Student Succeeds Act, 2015; Individuals with Disabilities Education Improvement Act, 2004). Data-based instruction incorporates documentation of K-12 students' present sign language skills, evidence-based instructional strategies (EBPs), and implementation of American Sign Language standards (ASL; Laurent Clerc Center, 2018). I will present data from receptive and expressive ASL assessments that are efficient to administer and score for a K-12 residential school population across three years. Teachers can use these assessments and comparison data to document their students' present ASL skills, determine areas in need of instruction, and implement EBPs paired with ASL K-12 content standards to increase their students' ASL skills. EBPs include access to and repeated viewings of fluent sign language models, shared reading, explicit instruction, contrastive analysis, etc. This data-driven instructional process can be applied to any natural signed language.

## 7. Joy Rosenberg – Innovations in research-based TDL best practice

The need for evidence-based teaching of deaf learners is well-established in the literature, and in the motivation and moral compass of Teachers of the Deaf and Audiologists. MESHGuides offer easy online access to translational research that can readily inform practice and implementation.

This benefits not only the outcomes of the children and young people, but also the Continuing Professional Development needs of the professionals. According to UK's National Education Union, teachers are working sometimes up to 58 hours per week on average to prepare and teach their lessons, which negatively impact effectiveness, which can be ameliorated by MESHGuides' easy access. This poster showcases established MESHGuides in the area teaching deaf learners: Acoustics, Auditory Processing, Autism, Cued Speech, Glue Ear, Early Support, and Radio Aids. User analytics will be discussed, and delegates can consider ways to implement MESHGuides in the classroom, for team CPD, or for future topic expansion and development.

**8. Kathryn Crowe & Mark Guiberson - Professional perspectives on supporting multilingual children with hearing loss**

Parents frequently report that advice from professionals is important in making communication decisions for their child with hearing, but little is currently known about the advice professionals give to parents raising children with hearing loss in spoken language multilingual environments. In this study, eighteen professionals who worked with the families of multilingual children discussed their experiences, the role of professionals in the process of decision-making about multilingualism and language choice, and the factors that they considered were important when supporting families in making informed choices on these topics. Inductive thematic analysis of the professionals' discussion yielded themes that participants described as influential in their interactions with families: child characteristics, language environment, language purpose, decision-making, professional knowledge, professional resources, and professional practices. This poster will provide teachers and researchers with an insight into professional considerations that are important for decisions about multilingualism and language choice.

**9. Kimberley Peters, Jessica Beer, David Pisoni & Carly Guest-Williams - Theory of mind acquisition in children who receive cochlear implants early: Relationships among age at implantation, language skills, and ToM**

*Method:* Participants included 25 children who were deaf with CI ages 3.0 to 6.5 years and 25 age-matched children with TH. The test battery included measures of expressive and receptive language, mental state vocabulary, and theory of mind (ToM). ToM was measured using the 5-item ToM Scale (Wellman and Liu, 2004).

*Results:* There were no differences between children with cochlear implants and their typically hearing peers on expressive language, receptive language, mental state vocabulary or ToM performance. The only significant difference between these two groups of children was their hearing age; CI users had been exposed to spoken language for significantly less time than their hearing counterparts by 12 months on average. Expressive and receptive language skills were strongly correlated with ToM performance, even after controlling for hearing age.

*Conclusions:* These results provide evidence that early cochlear implantation can ameliorate some of the deleterious effects of congenital, profound deafness on oral language development, which in turn may positively influence social cognition; and that children who are deaf who receive a cochlear implant relatively early and who have good oral language skills are more likely to acquire ToM in a typical time frame.

**10. Luka Bonetti - The relations between working memory functioning and language outcomes in pediatric cochlear implant users**

Recent literature suggests that the functioning of the work memory (WM) of pediatric cochlear implants users (PCIU) is different compared to their hearing peers. Still, it is unclear whether these cognitive differences are the result of poor storage or processing of verbal information (or both), and whether (and how) the potential specificities of verbal WM are reflected on non-verbal WM of PCIU.

In focus of this pilot study are characteristics of verbal and non-verbal WM of 10 orally habilitated and educated school-aged deaf children without additional difficulties, implanted by the age of 3.

The aim of the study is to compare verbal and non-verbal WM between PCIU and their hearing peers, and to examine potential interrelationships of language outcomes of PCIU, selected socio-demographic, audiological, technical and habilitational variables, and their verbal and non-verbal WM. The research seeks to find possible sources of large variance in the language outcomes of PCIU.

**11. Lynn McQuarrie & Charlotte Enns - Signed language phonological awareness Instruction and the acquisition of sign and print vocabulary in bilingual deaf children**

We conducted a school-based intervention study at a bilingual school for the deaf in Western Canada to examine the effects of explicit signed language phonological awareness instruction on dual language vocabulary learning in young deaf children (grades 1-3).

A multiple baseline, single case experimental design documented a functional relation between explicit signed language phonological awareness instruction and skill acquisition for each of the study participants – beginning readers who varied in primary communication mode, chronological age, and signed language proficiency. We discuss the intervention data highlighting how instruction that exploits signed language phonological patterns and signed phonology to print connections facilitates both sign and print vocabulary learning. We argue that this approach targets analogous fundamental knowledge structures and learning mechanisms known to support vocabulary learning and word reading acquisition in spoken language users and underscores the need for further research on the innovation of reading instructional practices for signing deaf learners.

**12. Lynn McQuarrie, Charlotte Enns, Eric Lam & Stephanie Yong – Dual language vocabulary apps: using digital games to enhance language and literacy learning**

There is growing evidence that instruction and practice targeting sublexical abilities (i.e. signed language phonological awareness) may increase the sign lexicon (e.g., McQuarrie & Enns, 2015) and facilitate written word learning (e.g., Homer, Heimann & Rudner, 2017, McQuarrie & Abbott, 2013). In this session, we demonstrate a suite of interactive digital games developed with and for bilingual deaf children (ages 6-13 years). The learning games are designed to develop awareness of signed language phonological patterns and enhance lexical quality at the sign and written word level. Each game includes two gameplay options: Picture-mode reinforcing sign phonology-semantic connections (i.e. sign vocabulary learning) or text-mode reinforcing sign phonology-orthography connections (i.e. print vocabulary learning). Use of touch tablet technology that is highly motivating, easily accessible, and transportable encourages independent practice opportunities and extends print experience supporting fluent word reading. Future plans include adaptation of the apps for use with other signed languages.

**13. Nynke Dethmers - Psychological well-being of Deaf students**

This poster is based on Psywel (an abbreviation of the Dutch words ‘psychisch welzijn’, which means psychological well-being), a program Kentalis started in January 2015. Psywel aims to provide early detection of psychological problems in DHH students in the Netherlands. Early detection is provided to all DHH learners in schools of Kentalis followed by research and defined treatment in the healthcare sector; it aims to make screening, research and treatment-related follow-up as integral as possible.

Research (van Gent. T, 2012) found that mental health problems and disorders in DHH children occur more often (1,5 to 2,5 times) compared to their hearing peers. In addition, research also confirmed that mental health problems are often more difficult to recognize in DHH children and young people, whereby aid is not given or later in time compared to their hearing peers.

The poster will show the process of Psywel and the first results found.

**14. Rosanne van der Zee, Angela Stevens & Lizet Ketelaar - Feelings and their meanings: a study on socio-emotional functioning in school-aged children with and without hearing loss**

It is known that children with hearing loss can experience problems in their socio-emotional development (e.g., Fujiki, Brinton, & Clarke, 2002; Peterson & Siegal, 2000; Rieffe, Netten, Broekhof, & Veiga, 2015).

These problems can influence their own emotional functioning as well as their social experiences with others. In our study ‘Feelings and their meanings’ we examined socio-emotional functioning in children with and without hearing loss from six to ten years old.

Both parent-questionnaires and observational tasks for the child were used to investigate various aspects of socio-emotional functioning, for example emotion recognition, theory of mind, emotion regulation, and empathy. On the poster we will present results from 50 children with hearing loss and 200 children without hearing loss. We will elaborate on those aspects of socio-emotional functioning that need more attention for school-aged children with hearing loss.

**15. Claudia Blankenstijn - Narrative Language Therapy® in pictures in deaf and hard of hearing children with psychiatric disorder**

Since Joining Forces (2007), it is known that more than 80% of Deaf/ Hard of Hearing (DHH) children with psychiatric impairment suffer from severe developmental language disorder (APA 2014). Narrative assessment was performed using the picturebook "Frog, where are you?" (see also Scheper & Blankenstijn, 2006). The outstanding poor performance in narrative abilities of DHH children inspired us to develop the Narrative Language Therapy® (NLT®), using drawings that underpin exactly the narrative of the child. Recently, this language therapy was implemented to DHH children and their parents in a Mental Health Clinic. Illustrated with a detailed case study, measurable effects of the narrative language abilities in both spoken Dutch and Dutch Sign Language (DSL) are presented. Furthermore, it will be explained how the DSL- and NLT-trained therapist instructs the parents eliciting narratives from the child. It will be argued that in order to optimize generalization, teachers should be involved as well.

**16. Ben Elsendoorn, Janet Wolters & Constance Vissers - Recognizing and interpreting emotions in a serious game**

It is well-known that (young) children with communication problems due to a developmental language disorder or hearing problems often fall short in their socio-communicative skills. One aspect that plays a part here is their difficulty in understanding emotions, how to express their own emotions and to understand the role emotions play in (successful) communication. Two modules have been developed for training emotion perception. The modules are part of a serious game (BrainGame Brian, Van der Oord, 2014), in which children can train executive functions in an attractive way. One module focuses on training recognition of emotions in faces, both drawings from characters in the game as well as photographs of human beings, using a variety of exercises with increasing levels of difficulty as recognition scores improve. In the second module learners practise perception and meaning of emotions in a natural, recognizable situation. The training consists of twenty-five sessions, each lasting approximately 30 – 40 minutes. The various training tasks have been developed and tested with the participation of young learners who belong to the target group of future users.

## FRIDAY NOVEMBER 8<sup>TH</sup>

1. **Andrea Salins, Anne Castles, Linda Cupples & Greg Leigh - The effect of orthography provision on oral vocabulary learning in hard of hearing children**

Learning spoken words can be challenging for deaf and hard of hearing (DHH) children who communicate orally (Houston, Carter, Pisoni, Kirk, and Ying, 2005). Despite its importance for reading and literacy acquisition, there is very limited evidence to support vocabulary instruction strategies for DHH children (Luckner & Cooke, 2010). The aim of this study was to examine whether the incidental presence of orthography can facilitate word learning in 6 to 12-year-old hard of hearing children. We hypothesized that orthography would provide scaffolding for the transient phonological information and strengthen the phonology-semantics link in the mental lexicon, thereby facilitating word learning. The children were taught novel picture-word pairs with or without spellings, using repetition and production tasks. Naming and picture-word matching tasks were used to measure learning. Behavioural and eye-tracking data revealed strong orthographic facilitation for spoken word learning and retention over a one-week period.

2. **Anique Schüller - Native and non-native signers' performance on a sentence repetition task for Dutch Sign Language**

A sentence repetition task for Dutch Sign Language (NGT-SRT) was developed to tap into the variation in NGT-fluency amongst adults (L1/L2) (Schüller, 2018). In line with other SRTs (e.g. ASL-SRT, Hauser et al., 2008) the NGT-SRT consisted thirty-nine sentences, varying in length and complexity. The complexity was scaled in three different levels (Mayberry, unpublished; Marinis and Armon-Lotem, 2016). Subsequently, the sentences were equally distributed across these levels of complexity.

The work we report on here establishes how the NGT-SRT differentiates levels of fluency within a population of native users of NGT and what the distribution of fluency within such a population would look like. For this purpose, we have tested native deaf adults (N=25, 13 f, 22 right-handed) from a wide age-range (Range: 18-54, M=31.84) and with a variety of educational backgrounds. Additionally, we show how the NGT-SRT differentiates between the pre-determined levels of sentence complexity.

3. **Bernadatte Namirembe - An ecological approach in training teachers for deaf learners in Uganda**

The ecological approach in deaf education, as depicted by Knoors, Brons and Marschark (2019) is the point of departure of work currently done in Uganda. Deaf learners in secondary schools are taught by regular teachers, supported by sign language interpreters. However, student performance is below standard. Many easily infer that the deaf cannot manage secondary education. However, the presenter argues that more is needed to improve the learning environment for deaf learners in the Uganda context. Baseline research identifies key factors influencing this environment, such as attitude of teachers, teacher-centered teaching methods, limited understanding of deafness, and insufficient visualization tools available to both teachers and learners. In addition, access to technical devices depends on the socio-economic background of the parents. Few to none diagnostics and rehabilitation support is available, particularly anywhere outside the capital Kampala. An innovative teacher training program intends to counterbalance these counterproductive factors to learning.

**4. Charlotte Enns & Lynn McQuarrie - Signed language assessments: towards equity in language testing for bilingual deaf students**

Increasing diversity in the cultural and linguistic backgrounds of deaf children in North American and European countries challenges traditional monolingual approaches to language testing. There is a need to balance the numerous measures available to assess spoken languages with the scarcity of measures to assess signed languages. In this presentation, we describe the development of three tests of American Sign Language (ASL) for use in research and education with children aged 3 – 13 years: 1) the ASL Receptive Skills Test (ASL-RST) – assesses comprehension of ASL grammar in phrases and sentences, 2) The ASL Expressive Skills Test (ASL-EST) – assesses story retelling skills (narrative content, structure and grammar), and 3) the ASL Phonological Awareness Test (ASL-PAT) – assesses knowledge of the sub-lexical properties of sign formation (i.e. handshape, location, and movement). The content, format, procedures, and psychometrics of each of the tests will be outlined.

**5. Claudia Becker, Patricia Barbeito Rey-Geißler & Martje Hansen - Discourse competences of deaf children – the interdependency of sign language acquisition and theory of mind**

To participate successfully in discourses children do not only need linguistic competences but also social-cognitive abilities like theory of mind (ToM). We investigated the interdependency of sign language acquisition and the development of ToM by conducting a cross-sectional study with five age cohorts (5-17 years, 60 deaf children of hearing/deaf parents with German sign language as dominant language, data: authentic narrative discourses, language tests, ToM-tests). Our results prove the interdependency of language acquisition and the acquisition of ToM in the development of discourse competences. Particularly, when the children have to adapt their narrations according to the needs of their addressee, they need ToM abilities (knowledge access/false belief). The development of ToM in turn depends on the acquisition of certain linguistic structures. Children of both groups show serious delays in the development of these abilities. We will discuss the consequences of these results for promoting deaf children in early intervention/school.

**6. Fiona Kyle, Katie Manson, Indie Beedie & Ros Herman - Early phonological, grammatical skills and emergent literacy in preschool deaf children**

Previous research has shown that vocabulary and phonological skills are predictors of reading outcomes in school-age deaf children but less is known about their predictive role in preschool deaf children. This poster will present data from the first year of a longitudinal study investigating early language and emerging literacy skills in deaf children using spoken language. In the current study, we assessed a range of language skills including morphosyntactic knowledge (sentence repetition and sentence structure) and phonological sensitivity (nonword repetition). In addition, we measured vocabulary knowledge, phonological awareness, and letter-sound knowledge. 50 preschool deaf children (3 and 4 year olds) who use spoken language and a comparison sample of 50 preschool hearing children participated in the study. We will report their overall language, phonological and emergent literacy skills and explore the role of early grammatical and phonological skills in predicting emergent literacy skills.



**7. Hindy Stern & Dalia Ringwald-Frimerman - Shared-reading events with deaf and hard of hearing (DHH) preschoolers in narrative and expository (ne) genres**

NE discourse during preschool years contributes to the development of emergent literacy (Griffin, Hemphill, Camp & Wolf, 2004). Previous research revealed that DHH preschoolers' expression ability in NE genres lags behind hearing peers, with a greater gap in expository discourse (Ringwald-Frimerman & Stern, 2013). The current project's goal is to examine teacher-DHH child discourse characteristics during NE reading events. Ten teachers and 15 DHH preschoolers were videotaped in two shared-reading dyadic sessions: with a storybook and with an expository book. Discourse analysis revealed more coherent mediating schemas during the storybook shared-reading than during the expository events. More teacher-child dialogic conversations occurred in the expository shared-reading events. However, in the narrative shared-reading events, teachers adhered more to the printed text and focused more on mediating emergent literacy skills. Each book-type apparently affords different literacy learning opportunities for the DHH child. Using clear teaching strategies for both genres is thus very important.

**8. Iva Hrastinski, Marina Milkouric & Lucija Perišić - Family-centered bilingual bimodal intervention and early cochlear implantation: a case study**

This paper presents the potential of early bilingual bimodal intervention in supporting vocabulary development of a child with unilateral cochlear implant. The family-centered early intervention, initiated at child's 4 months of age, was focused on counselling at the University Speech and Language Clinic. Initially, the family was seen four to six times a month with goals of supporting development of communication as well as listening skills. After cochlear implantation at the age of 16 months, early bilingual bimodal intervention was continued in family's home, once to twice weekly for 60 minutes per visit, providing Croatian Sign Language (HZJ) instruction through everyday activities and routines. Additionally, family was trained in spoken language support strategies. Both receptive and expressive vocabulary, as well as word type in signed and spoken modalities will be analysed in three time points using parental assessment of vocabulary development (MacArthur – Bates Communication Development Inventory). Family experience of early bilingual bimodal intervention will be also presented.

**9. Kathryn Crowe, Sharynne Mc Leod, Marc Marschark & Dawn Walton - Monitoring deaf and hard of hearing children's speech skills in the classroom**

Teachers have many choices of how best to monitoring the speech intelligibility of deaf and hard of hearing (DHH) children. Best practice points to conducting objective assessments, which are often time and labor intensive, require specialist staff and equipment, and designed for diagnostic purposes. While rating scales are quick and easier to administer, it is hard to know how well scores on such scales relate to results from objective assessments. We examined the performance of 45 DHH students on a range of objective speech assessments at the word, phrase, and discourse level and correlated this with self-, teacher-, and unfamiliar listener ratings on a number of different rating scales. Comparing the results of these measures in this way has not been examined previously. Results will show the relationship between the different rating scales and objective measures, and recommendations will be made for evidence-based tools for monitoring children speech skills in the classroom.

## 10. Kirsten van der Heuij - Students in higher education

Due to the improved performances of deaf and hard of hearing (DHH) students in primary and secondary schools, attending higher education is a logical consequence. Learning in higher education requires higher order language and thinking skills through which students develop and learn about new subjects. This study focuses on the cognitive-linguistic profile of DHH-students in Higher Education. 35 DHH-students were compared with 50 normal hearing (NH) students on three language measures tapping into Dutch receptive vocabulary and academic language proficiency and knowledge of English grammar and vocabulary. Furthermore, all participants were assessed with two non-verbal subtests (Matrix Reasoning and Symbol Search) of the Wechsler Adult Intelligence Scale. Preliminary results show no significant differences between the group DHH-students and NH-students on languages tasks and the reasoning task. However, DHH-students score significantly lower than NH-students on the subtest Symbol Search. Further analysis will be done to get insight into the cognitive-linguistic profile of DDH-students.

## 11. Laura Monroy, Eva Gutierrez-Sigut & Mairéad MacSweeney - Automatic use of phonological codes during processing of written and fingerspelled words in deaf readers of Spanish

Reading difficulties in deaf children have often been attributed to poor use of phonological information during word recognition. We examined phonological effects in deaf readers of Spanish. Spanish has a shallow orthography in which phonological processing is proposed to be mandatory during word recognition. Participants were deaf teenagers who were split into a group of high (n=22) or low (n=33) readers (base on reading accuracy). A group of deaf adult skilled readers (n=16) were also tested. In Experiment 1, participants performed a lexical decision task (LDT) to written words that were briefly preceded by pseudohomophones or control stimuli. In Experiment 2, participants performed a LDT to fingerspelled words, pseudohomophones and controls presented in a video format. Results from both experiments showed phonological effects only in the low-accuracy teenager readers. These data support the proposal that less-experienced deaf readers make more use of phonological information from words than experienced deaf readers.

## 12. Nancy Norman - Itinerant teachers of deaf and hard of hearing learners: the role of teacher social and emotional competence

Teacher social and emotional competence (SEC) is essential to cultivating positive learning environments, building supporting relationships with students, and implementing effective teaching practices (Jennings & Greenberg, 2009), as well as promoting effective self-management of work-related stress (Collie et al., 2016). Much of the previous research investigating the work of itinerant teachers has largely focused on their roles, responsibilities, and working conditions (e.g., Foster & Cue, 2008) with minimal attention paid to itinerant teachers' SEC. The present study aims to address this gap by connecting the five domains of the Social and Emotional Learning (SEL) framework (self-awareness, self-management, social awareness, relationship skills, and responsible decision making) to the narrative experiences of 12 itinerant teachers. This poster presents connections between itinerant teachers' SEC and student engagement and well-being, as well as provides suggestions for promoting teacher well-being.

## 13. Sacha Couvee - Precursor measures for word decoding

According to the Lexical Quality Hypothesis (Perfetti & Hart, 2002), the quality of phonological, orthographic and semantic representations is related to reading skills. This study focuses on precursor measures for word decoding in deaf and hard of hearing (DHH) children in kindergarten; exploring lexical quality before formal reading instruction starts. Linguistic and cognitive skills, involved in learning to read, such as vocabulary or short-term memory, are already developing in kindergarten. Individual differences in these skills can be substantial, influencing later reading development. We explore these differences and the relations between phonological, orthographic, semantic, and cognitive skills in kindergarten.

### *Methods*

50 DHH children and 100 hearing children (age: 5-6 years) are tested on phonological skills, orthographic skills, vocabulary and cognitive skills in kindergarten. DHH children are also tested on sign vocabulary, fingerspelling and speech reading. We present differences between and within groups and interrelations between skills.

## 14. Vera Kolbe - Culture and language sensitive test adaptation – Production test narrative competences in German Sign Language (DGS)

This poster will focus on culture and language imbedded differences evaluated in the adaptation study of the British Sign Language Production Test by R. Herman et al. (2009) to DGS.

To assure cross-cultural and cross-linguistic adequacy the following was considered:

- construct equivalence – linguistic analysis of adults' narratives in DGS regarding test items, analysis of use of hands and scene length in new input video
- method equivalence - questionnaire regarding implied aesthetic and intellectual interpretation of new input video by members of the German majority culture and members of the German Deaf Community
- item equivalence - interview at a kindergarten with hearing and deaf children for interpretation of laptop feature
- diversity and gender equality: as criteria for main character selection, adapted end of storyline
- accessibility: to ensure accessibility for the Deaf Community DGS videos of all written content and summaries of results of 120 children study are available on our homepage.