

Preschoolers Get Talking & Communicating

AN EVALUATION OF A MODEL OF COLLABORATION
BETWEEN SPEECH AND LANGUAGE THERAPY AND
PRESCHOOLS. UNDERTAKEN BY TRINITY COLLEGE
DUBLIN, ON BEHALF OF DUBLIN SOUTH WEST
INNER CITY NEYAI CONSORTIUM.

INTEGRATION OF SERVICES AND CONTINUUM OF CARE DEMONSTRATION MODEL FOR CHILDREN 0-6
DUBLIN SOUTH WEST INNER CITY NEYAI CONSORTIUM

Overview of Parent Child Hub

The Dublin South West Inner City 'Parent and Child Hub' is a universal preventative family support service delivery initiative open to all parents of children aged from zero to six years living in the Dublin South West Inner City area. The model was developed in the context of the Dublin South West Inner City National Early Years Access Initiative (NEYAI) project: Integration of Services and Continuum of Care Demonstration Model for Children 0-6 Years undertaken in the Dublin South West Inner City area by a Consortium of 11 partners:

- Barnardos Rialto Family Centre (lead agency)
- Dublin City Childcare Committee
- Fatima Children's Day Care Centre
- Health Services Executive Speech and Language Therapy Department
- St Joseph's Pre-school
- Dolphin House Crèche
- Tír na nÓg Pre-school
- Department of Clinical Speech and Language Studies Trinity College Dublin
- Rialto Springboard Project
- St James's National School
- Early Childhood Ireland

The aim of Parent and Child Hub is to support and improve preventative service delivery to children 0-6 years through providing them and their parents with multiple access points to universal support. These include those services that might in the first instance help prevent problems from arising for the family and those that could help identify problems

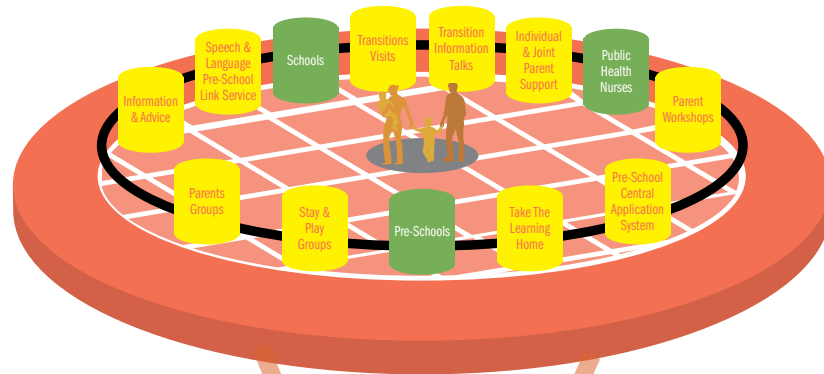
and supports needed at an early stage. At the core of the 'Parent and Child Hub' model is supporting the parent as the child's 'key primary support' to support their child and the recognition that better outcomes for children can be achieved through supporting their parents.

The approach is based on progressive universalism, which involves combining universal services with targeted interventions for parents and children with additional needs. Interventions at this level aim to strengthen informal support networks which in turn can lead to better outcomes for children.

The 'Parent and Child Hub' is underpinned by the Dublin South West Inner City NEYAI consortium partners' approach to integrated working which involves services the working together as one unit with the goal of enhancing front-line service provision to meet the needs of children 0-6 years and their families in the area. The aim is to harness the collective efficiency and effectiveness of the partners to provide a seamless continuum of services to children aged zero to six and their families. The approach is based on the premise that integrated working can lead to better functioning of front-line services which in turn can lead to better outcomes for children.

For those accessing services through Parent and Child Hub, the experience should be seamless, needs-driven and

Level 1 Universal Service Provision – The Parent and Child Hub



Referral on

Level 2 Low to Vulnerable needs



Level 3 High to Complex needs



Level 4 Complex to Acute needs



based within the local community. The Parent and Child Hub makes a range of resources, supports and experiences locally accessible by parents, including:

- guidance and support relating to parenting and child development;
- signposting to other resources, services and supports;
- **Stay and Play** groups providing opportunities in the community for children 0-3 and parents to come together to share experiences and learn;

- **The Stepping Stones Transition** Programme to support children with their transition from pre-school to School
- **The Take the Learning home** Programme supporting children in junior infants through improved parent- school partnerships
- **Supporting Speech Development And Language Acquisition** in the pre-school through Speech and Language Therapy and Pre-school Collaboration (Pre-School) Link Service



Contents

Executive Summary	iv
1. Background	1
1.1 Preschool Child Language Development	1
1.2 Speech and Language Therapy Structures in Ireland	1
1.3 Preschools in Ireland and Early Childhood Care and Education Scheme	2
1.3 Aims and Project outline	3
Phase 1: Planning and consultation with key stakeholders	4
Phase 2: Hanen - Train the Trainer	4
Phase 3: Roll out of Learning Language and Loving It training across two preschools	4
Phase 4: Roll out of Learning Language and Loving It training in the third preschool	4
Phase 5: The development of an SLT - Preschool link service where the SLT visits each preschool	4
1.4 Participants	4
1.4.1 Preschool Staff	5
1.4.2 Preschool children	5
1.4.3 SLT service	6
2. Learning Language and Loving It	9
2.1 Pre training focus groups	9
2.2 Post Training Evaluation	11
2.2.1 Perceptions of the Learning Language and Loving it programme	11
2.2.2 Changes in interaction strategies: Waiting	11
2.2.3 Changes in interaction strategies: Becoming more aware	11
2.2.4 Changes in interaction strategies: Model, repeat, comment	12
2.2.5 Changes in interaction strategies: Practical changes	12
2.2.6 Building a positive training experience: What worked?	12
2.2.7 Building a positive training experience: What could have been better?	14
2.2.8 Summary	15
3. Speech and Language Therapy - Preschool Service Model of Collaboration	17
3.1 The initial SLT - Preschool link visits	17
3.2 Modifying the visits	17
3.3 Evaluation of the SLT - Preschool Link visits	18
4. Evaluating Change in Interaction Styles	19
4.1 Results of the analysis	20
4.2 Research design considerations	24
5. Speech and Language Assessment Results	25
5.1 Assessment results	26
5.1.1 Speech Profile	26
5.1.2 Language scores	26
6. Implications	29
6.1 Maximising Effectiveness of Training	29
6.2 Future directions	29
References	31

Executive Summary

Background

Mastering a native language is one of the most profoundly significant achievements of early childhood. For the vast majority of children, this process unfolds with extraordinary ease. The eagerly-awaited first words that emerge around the first birthday, expand into an ability to engage in complex conversations about events removed in time and place over a few short years. Although the majority of children develop in this way (many acquiring more than one language along the way), a significant group of children experience great difficulty keeping up with their peers. For these children, language learning is neither effortless nor rapid. Children with speech and language difficulties form the largest single group of all children with special needs. Studies have suggested that parents and teachers of approximately 25% of all 4-5 year old children have concerns about their speech and language development (McLeod & Harrison, 2009). While some of this 25% catch up with their peers in the early school years, approximately 3-7% of all children present with a Specific Language Impairment, (Tomblin et al, 1997), a lifelong language impairment where significant language and communication difficulties are not primarily attributable to any other cognitive, physical or sensory impairment. Many more have difficulties with language learning in addition to other disabilities, such as intellectual disability and autism spectrum disorders. The consequences of these early language and communication difficulties can be pervasive, impacting on educational, social, emotional and vocational aspects of an individual's development well into adulthood. Language difficulties have consequences not only for the individuals and their families, but also carry significant cost burdens for the State, related to both service provision and loss of revenue arising from low employment rates and increased state dependence.

Currently in Ireland, children referred for Speech and Language Therapy (SLT) frequently encounter waiting lists to access services. SLT service models have moved away from the traditional individual therapy model of intervention, where the SLT acts as a primary agent of change through one-to-one interactions with a child, to adopting a more context-inclusive approach, ensuring that all key members of the child's context are included in the intervention.

Preschool children in Ireland spend significant proportions of their day in care and education settings. The Early Childhood Care and Education (ECCE) scheme entitles all children to one year government funding for preschool care and education. Equipping early childhood educators with the skills to maximise child language development is advantageous in promoting child language development in a universal approach to maximising language and communication skills.

Objectives

The over-arching aim of the project described here was

- To develop a model of collaborative working between the HSE SLT department and the preschool staff across three target preschools, with the aim of fostering exchange of information between the two contexts to maximize positive impact on the children's development of effective language and communication skills. Following from this overall goal, five further objectives were set:
 1. To implement and evaluate a training programme aimed at enhancing the skills of the preschool staff to support speech and language acquisition in all children and to enable staff to develop a language enriching environment for all children who attend their service.
 2. To support the preschool staff in identifying children specifically at risk of speech language and communication difficulties, so that these children can be referred to the relevant SLT service.
 3. To identify the level of need in relation to speech and language skills for children attending the participating preschool settings.
 4. To assess the impact of training preschool staff in language stimulation on children's development of speech and

- language skills, as measured by formal standardized testing.
5. To build ongoing links with the preschools targeted in the training phase in order to develop a model of collaborative working

Methods

The local HSE SLT service and three preschools participated in the present project. Focus group discussions and structured interviews were carried out with the preschool staff to explore their perceptions of the role of SLT within their own service, their confidence in identifying children with speech, language and communication needs and their perceived competence in meeting the needs of these children. Preschool staff were offered training using a research-supported training programme – Learning Language and Loving It (LLLI) (Weitzman & Greenberg, 2002). The impact of the training was explored through evaluation of three different data sources:

- Focus group discussions and structured interviews were carried out with preschool staff to evaluate their perception of the value of the training, of barriers and facilitators to the training and suggestions for positive changes to future training. The SLT staff who delivered the training were also interviewed, to explore their perceptions of the value and impact of the training from the point of view of SLT service provision.
- Changes in interaction strategies were explored through comparison of pre- and post-training video recordings of staff interacting with children within their services.
- Finally, language scores of children involved in the services were assessed at three points over the course of the project.

Following completion of training, the relationship between the HSE SLT department and each setting was maintained through a once monthly link visit to each preschool. This visit facilitated further coaching in the use of the LLLI strategies learned, as well as giving advice regarding specific children or speech and language queries as they arose.

Findings

Participating staff from the ECCE settings uniformly rated speech and language therapy support as important to meet the needs of the children attending their settings. At the outset of the project, staff expressed almost unanimous dissatisfaction with the level of contact they had with existing SLT services. Although most staff expressed confidence in their own ability to identify a child who was experiencing a speech, language or communication need, the characteristics they highlighted focused primarily on speech sound difficulties, suggesting that language and communication difficulties were more likely to be overlooked. Overall, preschool staff were far less confident in their ability to support children with such needs.

The impact of the LLLI training varied across service settings. Positive aspects of the training identified by all participants were the opportunities to engage directly with speech and language therapists from the area and the opportunity to discuss specific children. Some of the preschool staff rated the training as insufficiently challenging, overly general and lacking focus on the specific needs of the children attending their service. However other preschool staff rated the programme as very helpful, and reported that their perception of the possible role of the speech language therapist had changed over the course of the training. All staff suggested that the training extended longer than was necessary, involved repetition and required further modification to make it maximally relevant to their own specific training needs.

The SLT staff involved in delivering the training were also interviewed. Across the three preschool settings, the SLTs felt that delivering the programme had been beneficial not just in terms of skills development, but also in terms of interacting directly with preschool staff and building relationships. The SLTs agreed with the preschool staff that the programme could be effectively delivered in a shorter time frame. Over the course of the three settings, they incorporated changes and modifications to the programme to tailor it more specifically to the needs of participants. Making these adaptations raised some concerns for the integrity of the delivery of the programme, given that the evidence base supporting the effectiveness of the programme is premised on fidelity of intervention. However, the need to respond to immediate, context-specific demands was prioritized over the constraints of the specific programme.

The LLLI programme includes video record interactions between staff and children as a learning tool. Review of these recordings with the SLT allows participants to observe their use of strategies and to discuss how to make improvements.

Video recordings from one preschool setting were rated independently by two research assistants blinded to the timing of each video interaction. Results from comparison of these video recordings were inconclusive. While some staff demonstrated marked changes in interaction strategies, others showed little change. The evaluation was complicated by the fact that the activities in focus in the selected recordings varied across time points, so that interaction strategies in one setting (e.g., group story book reading) could not easily be compared to a one-to-one imaginative play interaction or a lunch time setting.

Findings from the assessment of the language skills of children attending the preschools were planned as pre- and post-training measures. However, due to timing issues, many children were not available for follow-up assessment as they had moved to primary school. Therefore findings from these measures were considered in relation to identifying the language profile of the children. In total, 95 children were assessed across a range of language measures. Somewhat surprisingly, despite the expressions of concern by those working in these settings about the language skills of the children attending, the mean score on standardized measures was well within the average range both for language skills and for speech skills. On the Preschool Language Scales test, Standard Scores between 85-115 are considered average. While the range of scores extended from 55-130 in the children assessed, the mean score was 93, comfortably within the average range. Similarly, in relation to speech performance, standard scores of 7 or higher on the Diagnostic Evaluation of Articulation and Phonology (DEAP) are considered average. The mean score across the children assessed was 11 (range 3-17). However, it should also be noted that 10% of the children achieved scores below 7 on the DEAP, indicating a clinically significant speech difficulty, and 31% of the children assessed achieved standard scores more than 1SD below the mean on the PLS.

Following the completion of the LLLI teacher training the SLT manager and the SLT involved in the project met with the staff of the preschool in order to jointly design the next stage of collaboration. Evaluation information from the LLLI phase of the project was carefully considered and from the outset it was evident that in order to gain maximum benefit from the preschool visits it was deemed necessary to for all involved to work collaboratively from the beginning. Following discussion, it was decided the SLT would visit the preschool for one morning per month to continue the communication and collaboration around specific children. A similar model of the link visit was implemented in all three preschools. In June 2014 the preschool managers and the SLT team met in order to evaluate the visits.



1. Background

1.1 Preschool Child Language Development

Preschool aged children experience a surge of overall growth and development between the ages of 3 and 5 across multiple domains – cognitive, emotional, social, and, not least, communication. From a speech and language viewpoint, these years take the child from an early language user combining 3-4 words in short sentences, to a skilled communicator with a significantly more mature vocabulary, phonology (sound system) and morphosyntax (grammar and word knowledge) at their disposal (Paul & Norbury, 2012).

The preschool years are also the time when speech and language difficulties typically first reveal themselves. The effects of having speech, language or communication needs (SLCN) are immediate in many respects, such as the instant frustration associated with not being able to communicate a message. However the longer term consequences for individuals with early language impairment are of significant concern, not only for these children and their families, but at a wider societal level. It has been shown that early language delay is a strong risk factor for later literacy difficulties (Larney, 2002). A longitudinal study spanning more than two decades following a group of individuals first identified as having a language impairment at age 5 has found that when compared to age matched typically developing peers, these children are more likely to have poorer academic outcomes (Young et al., 2002), to go on to develop anxiety disorders (Beitchman et al., 2001) such as social phobia (Voci et al., 2006), have higher rates of convictions and arrests (Brownlie et al., 2004) and to have a poorer outcomes in multiple domains even into their mid-twenties, including occupational status, educational attainment and communication (Johnson et al., 2010). This demonstrates the social, emotional and real-life consequences of early language disorders and underscores the importance of effective early interventions.

A wide body of research supports a link between socio-economic disadvantage and vulnerability to language and communication difficulties (Pungello et al., 2009, Stein et al., 2008, Durham et al., 2007, Sugland et al., 1995, Hoff and Tian, 2003, Beitchman et al., 2008, Reilly et al., 2010, Hart and Risley, 1995). Prevalence rates of language difficulties in children from socioeconomically disadvantaged backgrounds have been placed as high as 10-25% across a range of international studies (Pungello et al., 2009, Stein et al., 2008, Reilly et al., 2010, Schoon et al., 2010). The Growing Up in Ireland longitudinal study of 8,570 nine-year-olds (Williams et al., 2009), reported the Vocabulary Scores of the Drumcondra Reading Test were clearly differentiated by social background characteristics. Therefore, children from lower SES backgrounds are at a much greater risk of language difficulties and their associated problems (Law and Harris, 2006) than their peers from more advantaged backgrounds.

1.2 Speech and Language Therapy Structures in Ireland

Speech and Language Therapists assess, diagnose and treat clients with speech, language and communication needs. They play an important role in supporting preschools and schools to meet the needs of children with SLCN. However, SLT services in Ireland have historically fallen under the umbrella of the health services. When compared to services in other countries such as the United Kingdom, Australia, or the United States, SLT services in Ireland are unusual in the extent to which they are structured within health services, with almost no SLTs employed by the education sector. Any SLTs based within educational contexts are predominately funded through the health services. As health service structures have changed and the scope of practice of SLTs has evolved, service delivery patterns have expanded to embrace a whole-team approach, including parental, teacher and multi-professional input. The strong links between oral language skills, literacy attainment and access to all aspects of the curriculum underscore the importance of constructing and supporting linkages across SLT services and education providers, from preschool through to post-primary school.

Tiered intervention outlines three levels of intervention of increasing intensity and is also useful for conceptualising SLT services. The primary tier, or Tier I, is universal and non-targeted preventative intervention, whereby SLTs work to develop protective factors within the community against language impairments. The

secondary tier, Tier II, targets individuals who present with or are ‘at risk’ of presenting with a SLCN. Tier II interventions are of moderate intensity and relatively short term in duration. These interventions also aim to prevent later complications of a disorder by diagnosing early and providing timely intervention. The third level of intervention, Tier III, comprises individualised, intensive, and assessment-based interventions. Tier III interventions are typically restorative, long term, and the most resource-intensive. Early intervention across all three tiers is hypothesised to not only be a cost-saving mechanism in the long run (Schweinhart et al., 2005), but also creates savings in terms of increased access to the curriculum, decreased anti-social or negative behaviours and increased emotional well-being in children with SLCN.

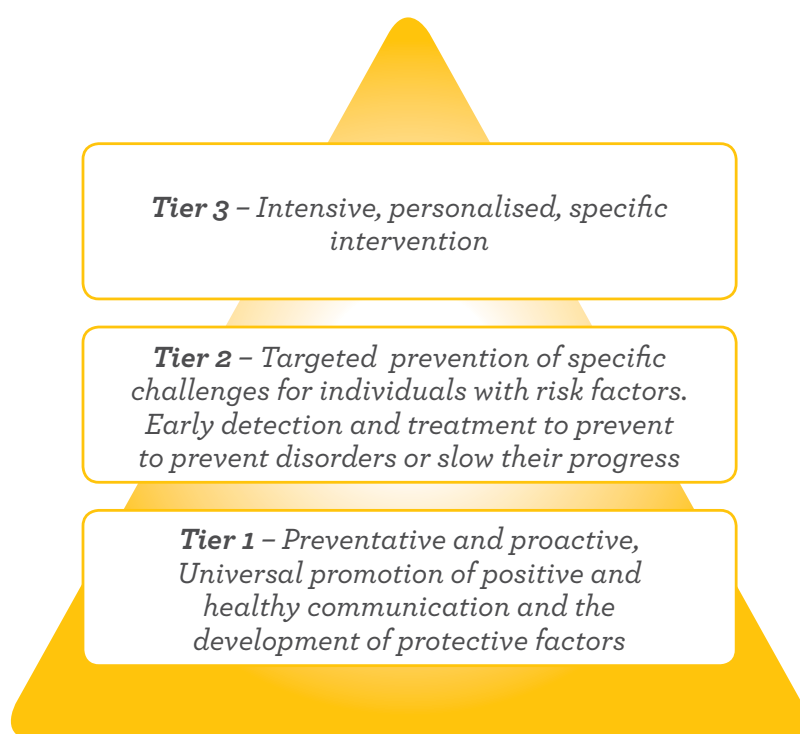


Figure 1: Tiered Intervention model

1.3 Preschools in Ireland and Early Childhood Care and Education Scheme

developmental period prior to starting school” (Department of Children). Children are eligible for the ECCE scheme if they are aged between 3;02 and 4;07 on September 1st of the year that they start the scheme. In order for a preschool to participate in the ECCE scheme, they must have at least 8 children enrolled in the scheme, and from September 2014 and the preschool leaders must hold a minimum FETAC Level 6 Qualification in Childcare or Early Childhood Care Education. The preschools themselves must adhere to the principles, standards and components of quality as outlined in Sólta, the National Quality Framework for Early Childhood Education (<http://www.siolta.ie/>). The purpose of Sólta is to define, assess, support and improve the quality of early childhood care and education settings. There are several standards which are relevant to speech and language development, particularly Standard 5: Interaction. This states that ECCE providers should support children to interact positively with peers of different ages in different size groups (Component 5.1 and 5.2) and preschool teachers should communicate with children in an appropriate interactive style, emphasising process rather than outcomes, balancing adult: child turns, following the child’s lead and actively encouraging expanded language use (Component 5.4). Furthermore, the classroom environment should be accessible to all children within the setting (Component 2.2). Whilst these standards have been set, training to support preschool practitioners in implementing these standards in to day to day practice is relatively scarce.

Aistear, the curriculum framework for children from birth to 6 years old, is now widely used in preschools. This framework supports preschool in maximising learning opportunities for children so they develop and become competent and confident learners. Aistear has four interconnected themes, “Communicating”, “Well Being”, “Exploring and Thinking” and “Identity and Belonging”. The theme “Communicating” is of particular importance to this project and incorporates the following subdivisions;

- Children will use non—verbal communication skills
- Children will use language
- Children will broaden their understanding of the world by making sense of their experiences through language
- Children will express themselves creatively and imaginatively.

Whilst preschools serve as an important learning environment for children in many domains, it has been found that many preschool classrooms do not create an optimally language enriching environment for developing language skills (Dickinson et al., 2008). The benefits associated with creating an environment that is maximally facilitative to child oral language development are plentiful (Justice et al., 2008), particularly in terms of developing pre-literacy and literacy skills (Connor et al., 2005).

Supporting preschools in creating and maintaining language supportive environments for children can be argued to fall within the role of the SLT. Supporting preschool workers to create a language enriched environment for a large number of children can be viewed as a Tier 1, universal level approach to intervention. A number of studies over the past decade have investigated both the feasibility and effectiveness of training preschool practitioners, with mixed results. For example Girolametto et al. (2003) found increases in overall child talkativeness and use of multiword combinations following a targeting in-service training approach, whilst Coulton and Gallagher (2001) found no significant child gains in expressive language, receptive language, or preliteracy skills following additional training supports for preschool staff. Many studies have reported that, even where changes in child language assessment measures prove elusive, SLT training and support of preschools is well received by staff members (Hayes et al., 2012; Asham et al., 2006).

1.3 Aims and Project outline

The work in this project was undertaken as part of the overall work being done in the area through the National Early Years Access Initiative (NEYAI). The work described here was one part of the whole NEYAI and the overarching aims of this aspect of the work that is described in this report was:

To develop a model of collaborative working between the HSE SLT department and the preschool staff across three target preschools, with the aim of fostering exchange of information between the two contexts to maximize positive impact on the children’s development of effective language and communication skills.

To achieve this aim, five further interconnected objectives were set:

1. To implement and evaluate a training programme aimed at enhancing the skills of the preschool staff to support speech and language acquisition in all children and to enable staff to develop a language enriching environment for all children who attend their service.
2. To support the preschool staff in identifying children specifically at risk of speech language and communication difficulties, so that these children can be referred to the relevant SLT service.
3. To identify the level of need in relation to speech and language skills for children attending the participating preschool settings.
4. To assess the impact of training preschool staff in language stimulation on children’s development of speech and language skills, as measured by formal standardized testing.
5. To build ongoing links with the preschools targeted in the training phase in order to develop a model of collaborative working

To achieve these aims, and to facilitate ease of description, the project was split into five distinct phases. Throughout each phase, evaluation and data collected was used to inform and develop the next phase therefore the work developed in a fluid way. Each phase will be briefly described in this section with more in depth information later in this report.

Phase 1: Planning and consultation with key stakeholders.

This phase was facilitated by meetings of the NEYAI consortium where planning was completed. The SLT manager and managers of the preschools attended these meetings. They then consulted with the HSE SLT department staff and recruited the preschool staff. A decision was made to use the local SLT department to train the preschools and to facilitate this, the SLTs involved in the project attended training in the delivery of the LLI programme.

Phase 2: Hanen - Train the Trainer

It was decided that rather than tendering out the training, local SLTs would be trained to deliver the Learning Language and Loving it programme. The advantage of involving local SLT staff was it supported the overall objective building relationships between the existing SLT department and preschools. In 2012 5 local SLTs from the Dublin South City LHO area attended training in the delivery of the LLI programme. .

Phase 3: Roll out of Learning Language and Loving It training across two preschools.

This involved a series of steps, including

1. Assessment of speech and language skills of children
2. Pre-training interviews and focus groups with participating preschool staff
3. Delivery of the 10-week training programme
4. Post-training evaluation of the programme with preschool staff and the SLT involved in delivery of the programme
5. Analysis of findings and modification of the programme for future roll-out

Phase 4: Roll out of Learning Language and Loving It training in the third preschool

This involved a series of steps, including

1. Assessment of speech and language skills of children
2. Pre-training interviews and focus groups with participating preschool staff
3. Delivery of the 10-week training programme
4. Post-training evaluation of the programme through focus group discussions with preschool staff and speech and language therapists involved in delivery of the programme.

Phase 5: The development of an SLT - Preschool link service where the SLT visits each preschool

Following completion of training and post training assessment of children, there was consultation with the preschool staff and management and discussion relating to the next stages of joint working. A plan was put into place and expectations were discussed. Time was allocated to the main project SLT to visit each preschool one morning a month for a “link visit”. The same format for each visit was used and this adapted with time in order to meet the needs of each preschool. At the completion of the project, a meeting was held to discuss the SLT – Preschool link service and to plan for the future.

1.4 Participants

Three preschools based in Dublin and the HSE SLT department from Dublin South City LHO participated in this project. All were part of the NEYAI consortium and came together as a result of consortium meetings. Whilst all three preschools were based within the same geographical area, they had differing enrolment policies. One preschool catered to children from a range of different backgrounds in the community, while the other two provided services either for children with social emotional and behavioural difficulties (SEBD) and/or children from the Travelling Community.

Ethical approval for this part of the overall NEYAI project was granted by the School of Linguistic Speech and Communication Sciences, Trinity College Dublin.

1.4.1 Preschool Staff

A total of 19 preschool staff participated in the training aspect of the research. All were female and their experience ranged from 2 years to 15 years working. Within the cohort of staff trained there were variations in the levels of experience and qualifications. A number of the staff had third level qualification in early education and childcare while other members of staff had FETAC level 4 and 5 qualifications.

Table 1: Preschool staff participants across each 4 phases of the project

Preschool	Attended pre-training focus group	Completed Learning Language and Loving It Hanen training	Completed post-training interview
PS1	n=5	n=5	n=5
PS2	n=2	n=3	n=1
PS3	n=9	n=11	n=11

In order to evaluate changes that resulted from the training, preschool staff took part in a number of data collection activities. Pre training focus groups and post training interviews were held. The data collected assisted in shaping the training programme but also mapped the changes in the SLT and preschool staff relationships as the project developed.

To look at the changes in the preschool staff's interaction with the children as a result of using the strategies covered in the training, video recordings of the staff were analysed. These recordings are part of the training programme and are used to assist adult learners to evaluate their performance and learn from observing themselves. Pre training, mid training and post training video recordings were analysed using a standard analysis form developed by Hanen: The Teaching Interaction and Language Rating Scale. Unfortunately as these videos are part of the training package and were not primary data collection methods, variables were not controlled for, which limits the conclusions that can be drawn relating to the change in preschool staff – child interactions as a result of the training.

Further details on findings are presented later in this report.

1.4.2 Preschool children

As all preschool staff attended the training, all children in the preschools benefited from the training provided to the teachers. This is considered intervention in Tier 1 of the tiered intervention model. However not all children who attended the preschools engaged in the speech and language assessment phase of the project. Speech and language skills of a cohort of children were assessed pre and post training with the aim of evaluating the impact of training the preschool staff on the children's skills.

The speech, language and communication skills of 95 children were assessed, ranging in age from 2yrs 11mth to 4yrs 2mths, with a mean age of 3yrs 6mths. Gender was balanced between boys and girls. Parental consent for each of the preschool children was obtained prior to commencement of assessment. Assessment of children was carried out in each preschool at two periods: before and after the LLLI training. Due to timing of the school year, it was not possible to do a before and after comparison as planned, as a significant number of the children assessed pre training had moved onto primary school. Therefore the data was analysed to provide information on the speech and language abilities of that age group of children attending the preschools. Unfortunately complete assessment data was not collected for all 95 children and levels of completion varied for each assessment.

While the preschools were located within the catchment area of the local HSE SLT department, not all of the children lived within that area. Only a small number of the children assessed in this work were known to the SLT department from previous referral.

Table 2: Children who participated in Pre Training assessment phase

Preschool	Number of children assessed	% Reside in HSE catchment area	% Reside outside HSE catchment area	% Known to DSC SLT department pre training
PS1	19	89%	11%	15% (3 children)
PS2	5	unknown	unknown	0
PS3	25	64%	34%	4% (1 child)

Table 3: Children who participated in Post Training assessment phase

Preschool	Number of children assessed	% Reside in HSE catchment area	% Reside outside HSE catchment area
PS1	15	87%	13%
PS2	6	66%	66%
PS3	21	66%	33%

Prior to commencement of training, of the 49 children assessed in the pre training assessments, only 4 children (8%) were already known to an SLT department. Of the 44 children with known home addresses who attended two of the preschools, 75% resided in the HSE catchment area of the SLT department working in this project. The other 25% resided in various other areas of the city and travelled to the centre for preschool. There were a greater number of children residing outside of the catchment area in preschool 3 than preschool 1.

Any children who were identified as presenting with SLCNs were referred to their local SLT department post assessment. Results are presented in section 5 of this report

1.4.3 SLT service

0.2 WTE (1 day per week) of one Senior SLTs time was allocated from the existing clinic services to this work over the 3 years of the project. The time allocated varied according to the different phases of the project. For example additional time was allocated for completion of child assessments but in the final phase, only one half day per week was allocated for the SLT-preschool link visit.

This SLT worked on all aspects of the project and delivered both training courses. Another SLT from the SLT department supported her for each training programme. In addition, the SLT Manager for the area supported the planning and monitored the implementation and evaluation of the programme. In order to support the primary objective of the project, namely to develop a more integrated SLT-Preschool service delivery, a decision was made for the HSE SLT staff to deliver this training rather than employing an external SLT. However additional resources were not allocated to the HSE service for this work and therefore there was an increase in waiting times for clinic services due to the reduced resource.

The HSE SLT department was also supported in this work by the Department of Clinical Speech and Language Studies in the University of Dublin, Trinity College. Student SLTs assisted the project SLT in completing the children's assessments and research assistants assisted in data collection and analysis. Students were supervised by qualified SLTs and the research assistant's work was overseen by the Head of Discipline in TCD.

1.5 Training Programme: Learning Language and Loving It (Weitzman & Greenberg, 2002)

The training program delivered was the Learning Language and Loving It (LLLI) Hanen Program for Early childhood educators (Weitzman & Greenberg, 2002). This program was selected as it was specifically designed for educators of young children to equip them with theory, knowledge and practical strategies to promote speech, language and communication development. The LLLI program details the development of communication from birth through to the preschool years and gives specific strategies to help facilitate and develop communication throughout all stages of preschool language. These strategies include

- Following the child's lead
- Join in and play
- Getting down to the child's level to promote face to face interaction
- Encourage verbal turn taking
- Creating communication opportunities
- Using a variety of labels and questions
- Expanding and extending language

Pioneered in Canada, LLLI finds its theoretical roots in the social interactionist model of language development and has been specifically designed for the benefit of early childhood practitioners. LLLI involves a combination of discussion, theory, role-play, and video analysis and is widely used internationally to support and promote language learning particularly for children with identified language learning needs. Furthermore, many of the objectives of LLLI are closely related to the Siolta and Aistear standards described above. For example all three make explicit reference to the importance of expanding child language use and balancing turn taking.

2. Learning Language and Loving it

The Learning Language and Loving It (LLLI) programme was delivered to staff in three preschool settings. The first training group was held in April 2012 and 8 staff from two different preschools were trained together. The second training group was held in September 2012 and 11 staff from the remaining preschool were trained. Two SLTs delivered each training programme, the project senior SLT and one other.

Each training session lasted approximately 150 minutes, and took place over the course of 10 weeks, once a week in late afternoon or evening times within the preschool. Video sessions (5 in total) are interspersed with theory sessions and these took place during the day in the preschool. This video session is an integral part of the programme and involves the preschool staff videoing their engagement with a child. The SLT and staff member then meet to discuss and evaluate the recording in light of their use of the strategies focused on in training. This coaching aspect to the programme increases learning by including practical implementation of strategies.

There were a number of levels of evaluation of the training programme and also the changes in relationship between preschool staff and SLT staff. Pre training, questionnaires and focus groups were completed and post training, semi structured interviews were completed. Combinations of qualitative and quantitative methods were used to analyse the data, including descriptive statistics, statistical analysis and interpretative techniques.

2.1 Pre training focus groups

Staff completed a questionnaire, which sought information pertaining to their experience, knowledge and confidence working with children with speech language and communication needs (SLCN) as well as biographical information, such as education and years' experience in a preschool setting. Immediately following this, a focus group was conducted. Two Speech and Language Therapists (SLTs) not involved in delivering the training facilitated the focus group. The focus group was guided by the following themes:

- experience working with children with SLCN,
- working with SLTs,
- barriers to therapy,
- ideal service models
- SLT-preschool relationships.

The focus groups were audio recorded with the consent of participants and subsequently transcribed. A summary report for each focus group was developed.

The pre training focus groups provided useful information relating to the relationship between preschools and SLT and also their knowledge of speech, language and communication needs.

Although most preschool staff expressed confidence in their own ability to identify a child who was experiencing a speech, language or communication need (see Figure 2), the characteristics they highlighted focused primarily on speech sound difficulties, suggesting that language and communication difficulties were more likely to be overlooked. Overall, preschool staff were less confident in their ability to support children with SLCN.

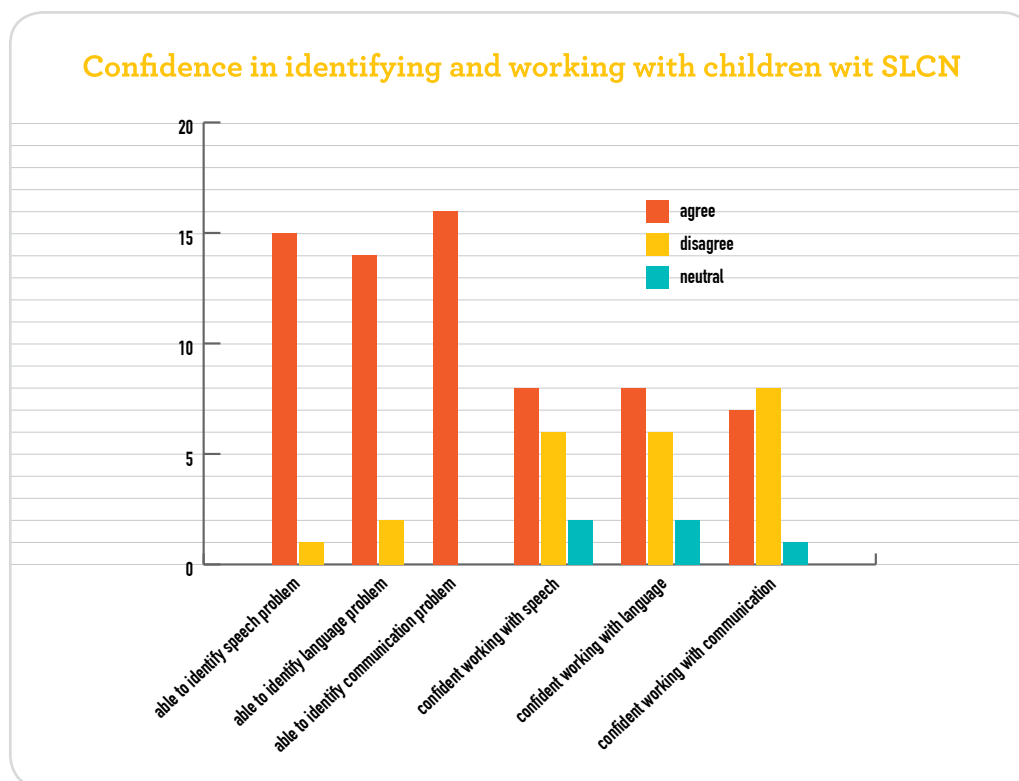


Figure 2: Confidence in identifying and working with children with SLCN

Almost all staff agreed that having access to speech and language therapy services was important, and as many reported that they had insufficient access to these services.

Key barriers to good access to SLT services were identified as:

- lack of personal contact with therapists, with no place to start a conversation,
- a perception of lack of SLT resources leading to long waiting lists, and
- structural barriers related to the sharing of information about children across services.

SLTs were perceived as “just so busy” and it was “tricky to get on to them”.

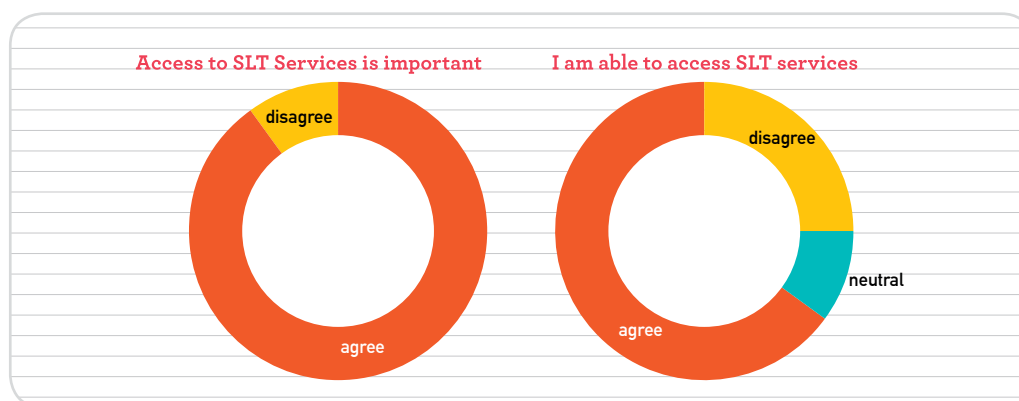


Figure 3: Access to SLT services by Preschool Staff

Previous experiences of engaging with SLT services had not been uniformly positive. While some preschool staff had found that having time to discuss individual children with HSE therapists had been “really useful”, others’ experience had been less positive. There was one report of a therapist who attended a setting weekly, to “do assessments for an hour and leave work for us to continue”. Another difficulty reported was the challenge of linking directly with therapists to discuss individual children when parents had not given written consent for such contact. Despite these barriers, all preschool staff expressed a desire to build closer relationships with SLT services.

It was envisaged that delivering the LLLI programme across the preschool settings would create opportunities for preschool staff and HSE SLTs to work together in a structured format and create a context for not only skill development but also for building relationships.

2.2 Post Training Evaluation

Following the completion of the first LLLI training group, individual structured interviews were conducted with each of the preschool staff trained and, with the SLT trainers. The interviews were carried out by two independent SLTs who had not been involved in the training. The interviews were designed to probe the

- participants evaluation of the training,
- their perception of its strengths and limitations,
- the application and usefulness of the training,
- their understanding of the role of the SLT.

As the SLTs had not been interviewed prior to the training, the SLTs were also asked questions retrospectively relating to expectations, preparation and aims. The SLT interview also focused on SLT perception of the usefulness, strengths and limitations of the overall program itself and of the training related to the specific group. A summary report of each group of interviews was then developed.

Following an analysis of the responses from the first training group, some changes were made to the second training. As the LLLI is a standard programme, there is limited scope for change. However in the first training group, the orientation session was omitted. This was arranged for the second group in order to assist in setting expectations. The following section discusses the data gathered from all three preschools.

2.2.1 Perceptions of the Learning Language and Loving it programme

Perceptions of the LLLI programme implementation varied across the three participating groups of preschool staff. In post-training interviews, participants were asked to provide an overall rating of the programme on a score from 1 to 5, with 1 being poor quality and 5 excellent. Staff in one setting rated training at 2/5 (n=5) with a range from 0 to 3, while a second setting rated it as 4/5 saying it was ‘good quality training but not what I was looking for’. Participants in the third setting rated the training as excellent overall, with an average rating of 4.6/5 (n=11). Comments from participants in this setting included “I actually learned new things which was great” and “...learnt loads from it and the fact that we were learning it and then we were able to put it into practice then the next... the next week and then we were able to see how we were going and we got- the feedback we got we were able to gain and gain more experience from it..”

2.2.2 Changes in interaction strategies: Waiting

The LLLI programme emphasises the importance of allowing time for children to talk, reducing questions, especially closed questions that require a specific answer, the need to follow a child’s lead and expand on the language they produce, and the value of repetition, particularly for children struggling with language and communication skills. Although two participants from one setting reported no changes to their communication, almost all preschool staff across all settings could name numerous specific strategies they implemented post-training (e.g. “waiting for a response...asking less questions...changing the structure of the questions to allow conversations to flow...allowing them to speak a lot more”).

2.2.3 Changes in interaction strategies: Becoming more aware

Some participants commented on their own increased observation and awareness. For example, one participant

identified that she is now “more conscious of the quieter children” and those “distracted easily”. This increased awareness of the children was echoed by another “I realise how important it is to let them speak and how important it is to get their opinion and how valued they are” and another, who would now “put the distracted child right in front of you”.

2.2.4 Changes in interaction strategies: Model, repeat, comment

Many commented on their awareness of repetition, commenting, modelling and giving time, citing an awareness of “...coming up with initiatives to kind of get more open-ended questions to get them thinking and problem-solving a little bit more.” One participant commented that she was more conscious about “not asking questions’ and ‘repeating an awful lot” more. Another now realised the importance of “repeating things for the small children just starting to talk”.

2.2.5 Changes in interaction strategies: Practical changes

Some practical changes were implemented by participants. For example, one participant suggested “where possible, I will try and kind of put into smaller groups if I can throughout the day if it happens naturally” and “well we’ve actually changed a lot of things in the room...we changed the areas around...”. Another teacher from this group reported “I have changed my reading style with the children...getting more feedback about the story...”

Even where participants felt that the level of training was too basic to meet their needs, many commented on potential benefits of re-visiting familiar territory “A lot of the stuff, we would do here...It was good to re-evaluate it to make sure you were doing it but it was something you would do quite naturally here anyway”. One participant reported that there wasn’t anything that she has changed since completing the training, she is “just more aware”. Similarly another commented that “apart from the change from the waiting, I think I probably would have had more or less anyway all of the opinions”.

2.2.6 Building a positive training experience: What worked?

Several factors were reported to contribute to a positive training experience. These factors can be grouped in terms of the communicative context of the training, some related to the specific content of the programme and others to adopting a flexible and responsive approach to programme delivery.

2.2.6.1 Communicative context: Organisational support for a whole-team approach

Delivering the programme in a group to a full team was viewed as a key advantage. This structure would not have been possible without the committed support of the managers of the preschool settings and the SLT Manager. The benefits of being able to work with the whole team of preschool staff were perceived as very important. The SLTs felt that the nicest thing...about a whole centre being trained is that they can ask each other questions or they can kind of prompt each other to remember some of the Hanen strategies...” This sentiment of team work was echoed in participant interview with one of the preschool staff: “Having a designated time to sit down with all of us as a team here”. One SLT commented favourably on participants’ willingness to participate: “I think that they were very enthusiastic and happy to be there from the very beginning and right the way through”... and that the group “seemed like a really solid team”. The SLTs also noted that success with the strategies spurred the teachers on – “nothing succeeds like success”. It was noted that when the teachers experienced success this motivated them with the next step in the training.

2.2.6.2 Communicative context: Building positive relationships across SLT and pre-school settings

Several of the teachers commented favourably on the SLT facilitators, describing them as “eager”, “enthusiastic”, “easy to listen to” and having “put a lot of effort in”. The facilitators similarly commented on the value of linking closely with the preschool and establishing rapport prior to training commencement “I had the chance to meet the staff meet the manager and I suppose I was a familiar face”. Following the training one SLT commented that “there’s quite a nice relationship there now”. The importance of this dimension cannot be over-emphasised.

2.2.6.3 Communicative context: Working one-to-one

Several of the participants also commented favourably on the individual sessions that occurred around the video recording and discussion. The SLTs noted that the teachers may have been more likely to discuss something in the privacy of an individual session: “more specific things they want to talk about or particular kids they wanted to talk about privately with us” and the individual meetings gave voice to the less out-spoken members of the group: “we were trying to make sure that everybody had a voice that it didn’t necessarily be whoever shouted loudly in the group”

2.2.6.4 Programme Content: Using video recording and self analysis

The majority of teachers and both SLTs commented on the usefulness of using video analysis in the training. Both trainers were of the opinion that video recordings and feedback were “most helpful” and “really, really useful”. The teachers in one setting unanimously agreed that the videos were a useful aspect of the training: “I definitely think evaluating our own videos was definitely very, very useful” and “Just looking back on how I was interacting with the children. Just to see how I was doing and how the children were reacting.”

Feedback from another preschool was more equivocal. For example one participant reported that she felt the videos were “not very natural” and that she ‘wasn’t very comfortable” carrying out the video recordings. However, in this setting, several staff described the videos as a valuable source of learning “when you look back on it, that’s really where you’re getting your learning”.

2.2.6.5 Programme Content: Keeping it practical

“I just thought it was really practical”

The teachers responded positively to what they perceived to be the ‘practical’ elements of the training. Putting into practice what was learned in theory and role played in the session was of benefit: “the fact that we were learning it and then we were able to put it into practice then the next...the next week”. In future planning, it would be helpful to emphasise the practical application of the theory and training during the sessions.

2.2.6.6 Flexibility and Responsiveness: Matching Content to Needs

The SLTs reported feeling constrained by the structure of the LLLI programme itself. There was concern that deviating from the structure would impact on the reliability and reproducibility of the project. Clearly, when using an evidence-based programme such as the LLLI, deviating from the structure or content has implications on the impact of the programme. The SLTs reported taking a more flexible approach in the second round of training following feedback from the first training. They were happy to spend more time on topics where clarification was required and tried to personalise the training specific to each participants by setting “specific goals” for each preschool staff member during the individual video sessions. The facilitators also made an effort to determine if the preschool staff had specific learning objectives outside the content of the LLLI programme: “we adapted the programme because we were finding that some people were finding they weren’t finding the information very useful or informative so we tried to up it a little bit”

Additional training in the areas of bilingualism, autism spectrum, speech development and fluency, which are not part of LLLI, was also included. Most of the preschool staff commented on the additional topics as highlights of the training. They appreciated the fact that therapists had developed these elements outside of the existing structure and this personalization was very positively perceived. In planning for future training, consideration should be given to how best to capitalize on this finding.

2.2.6.7 Flexibility and responsiveness: Clear expectations

One SLT noted that having an orientation session prior to the second training group and “being really clear about what it was about” was important to ensure realistic expectations of the objectives of the programme. The orientation meeting which preceded the second training session is believed to have facilitated this. This orientation meeting had not been possible in the first roll-out of the programme, a factor that potentially contributed to a miss-match between participants’ expectations and the programme content. Further plans should incorporate this strategy to maximise success of training.

2.2.6.8 Flexibility and responsiveness: Ongoing feedback

As is standard in a Hanen programme, feedback was collected from the course participants every week. The aim of this constant feedback is to monitor progress and adapt to changing needs as required. The SLTs reported this weekly feedback met that aim. It highlighted ‘a few issues’ that perhaps would not have been known to them otherwise and allowed them to adapt to changing needs.

2.2.7 Building a positive training experience: What could have been better?

The first training was rated much less positively by participants than the ratings given by participants in the second training. Many factors may have contributed to this difference, including the diverse skill levels and experience of the participants and the experiences of the SLTs delivering the training. As reported by the participants from the first training group, key reasons for some disappointment with the programme were that it:

1. lacked complexity
2. did not acknowledge their strengths and
3. offered little that was new or challenging.

It is clear that there was a lack of agreed, clear expectations for the training that was being offered. While this finding in itself is perhaps disappointing, this feedback was incorporated into planning for the second round of training with the inclusion of an orientation and expectation sharing session

2.2.7.1 Insufficiently challenging content: “hungry for information”

Some of the staff who attended the first training group felt the training “missed more complex ideas, more complex strategies” and they would “have liked a little more about the information about dyspraxia and autism and stuff like that”. Both SLTs commented that they think the training could include more information on “the different types of speech and language difficulties”, “If we had time to tackle specific disorders maybe fluency or dyspraxia”.

2.2.7.2 Programme structure: “a bit too long”

Most of the participants in the first training group explicitly stated that the allocated time was too long and that the sessions could be condensed into a shorter period minutes: “I do think it was unnecessarily long for 2 and a half hour”. Several participants from the first training group described repetitiveness as a barrier, in relation to the videos that are played within the theory sessions: “Only play each video once, not several times”, the resource manual which accompanied the training: “book is very repetitive...an awful lot of [it] was wasted”. However other participants reported they valued the resource book: “it’s great to have a reference to go back to, so I really appreciate that.”

Similarly, one SLT suggested reducing the repetitiveness of the content during training. This would entail deviating from the prescribed program, which raised concerns about compromising the validity and reliability of the LLLI.

In contrast none of the second training group commented on the length of the individual sessions. They suggested changes to timing of training and running the training during work hours. The therapists acknowledged the timing and duration of the training: “I suppose the training was quite long and quite intense and a big commitment for them”.

2.2.7.3 Programme structure: Videos and role play

Throughout the training, video recording of the participants and role play are used to support the learning. The video recordings taken of participants working with children were also shown within the theory training to underline the use of specific strategies. Whilst most participants rated these video recordings as one of the most valuable aspects of the training, some participants did not respond favourably to these. Similarly, role-plays were generally well received by the majority of participants but not all: “really I just find roleplays never really work unless you are with a child or you know you have the kind of hands-on practical em example of it.” The wide variation in opinion underscores the challenge of delivering a training which appeals to all learning styles.

2.2.7.4 Programme structure: Cultural considerations

The LLLI program was developed in Canada, against a backdrop of cultural norms that do not necessarily reflect those in Ireland or Dublin. This cultural disparity was commented on by both preschool staff and SLTs. For example, one explicitly stated that she would have preferred the teaching videos to be ‘more modern and related... to settings around here’. One SLT commented that she would like to make the content more relevant to the Irish context: “I think as well because it was Canadian I think some of the techniques and some of the strategies used maybe to teach the adults might have been a bit inappropriate - inappropriate is a bit strong but maybe just culturally there’s just some differences.” Similarly an SLT recommended making the training more relevant to the Irish context by “maybe using some of the videos from Irish preschools if we had consent for that might also be a useful thing”.

2.2.7.5 Programme structure: Group considerations

For programming reasons, the first training was delivered to teams from two different preschool settings. These participants did not know each other well, and their centres served children with quite different needs. Their experiences of working with SLT differed considerably and the baseline training level of staff was diverse. Meeting the needs of such a varied group was particularly challenging. Whilst some preschool staff mentioned that grouping preschools could be of benefit, as they “could learn from another’s situation”, it is important to consider the specific needs of both sets of staff to ensure the content of the training is pitched appropriately to both groups.

2.2.8 Summary

Overall, the staff who participated in the LLLI programme:

- rated it highly
- identified specific changes in interaction style that they could implement immediately in their own settings
- valued the opportunity to develop a relationship with the speech and language therapists who delivered the programme.

Key factors perceived by participants that supported this success were:

- organisational support for whole team participation in the programme,
- flexibility and responsiveness on the part of the SLT facilitators in individualising the programme to meet the needs of the specific ECCE settings,
- the opportunity for participants to use video recordings and reflect in one-to-one sessions with SLTs on their own interaction style,
- practical focus, based on shared expectations of what participation in the programme involved.

Where these shared expectations were not agreed in advance of the programme, participants expressed disappointment about the level of the programme, although almost all participants nonetheless highlighted benefits of participating. Several participants queried the next steps, which suggests that this training met the aim of not only developing skills but also building relationships and that this was the start of an ongoing process of engagement with SLT services.



3. Speech & Language Therapy - Preschool Service Model of Collaboration

The central objective of this project aimed to develop a model of collaborative working between the SLT department and the staff in each of the project preschools, on the basis that improved information exchange between the two centres would have a positive impact on child development. The SLT-Preschool link visit built on the working relationship that was developed throughout the LLLI training by further developing links and providing a structure for future interaction.

When the LLLI training was completed, the SLT department scheduled meetings with each preschool in order to discuss how best to move forward. One SLT, who consistently worked on the project, and the SLT manager met with the staff and management of each centre. Discussion centred on staff opinion of what service would be most beneficial to their centres, discussion of expectations and determining limitations of the service going forward. It was decided the SLT would maintain the link with each preschool by visiting them once a month. The aim of this visit was to assist staff in consolidating their newly acquired skills and to liaise in relation to specific children. The SLT did not offer direct assessment or intervention to any child in the preschool as this outside of the parameters of this project. The SLT allocated one morning per week to this project and the first link visit was conducted in November 2013. The allocated time included travel and any admin time associated with the clinic. In the period from November 2013 to end of June when the visits discontinued for the summer period, each preschool was visited five times.

As identified, not all children who attended the preschools resided in the catchment area of the HSE SLT service involved in this project. It was decided to include all children in discussions with preschool staff, regardless of their home address. If onward referral to another SLT department was required, or if the child attended another SLT service, the SLT facilitate improved communication between the preschool and that service.

3.1 The initial SLT – Preschool link visits

The first session in each preschool was used to establish expectations and decide what was practical in the time allocated. In the initial visits, the format was similar for all preschools. The SLT visited each classroom and linked with the staff regarding any children the staff were concerned about. The SLT observed the children at play, provided some on the spot advice and then forwarded some written advice if required. The advice provided focused on encouraging the use of the LLLI strategies and how they could be modified for each child's specific needs. If required, preschool staff were advised to refer a child to the clinic service. Following receipt of that referral, the child was added to the waiting list for assessment in their local SLT clinic.

The SLT also used this opportunity to observe children known to them from the clinic caseload in their natural environment.

3.2 Modifying the visits

In total there were five visits in each preschool. As the link visits became more established in each centre the approach taken began to vary according to the needs of the preschool.

The SLT initially linked with staff about specific children. Some of the preschools felt that it would be useful if the SLT also linked in with parents. In one preschool the SLT spoke to parents on an individual basis and discussed concerns that they had about their children. The SLT gave the parents advice and if required took referrals. In another preschool the SLT conducted a short questions and answers workshop for the parents of children in centre. Parents were advised of the workshop and encouraged to come along. The topics covered included language development, providing communication opportunities, speech development and the use of soothers.

4. Evaluating Change in Interaction Styles

A key objective of this project and of the LLLI programme was to enhance the skills of the preschool staff in creating a language enriching environment for all children who attend their service. Preschool staff who completed the training reported on their learning and were clearly able to identify changes in their interaction style and in the physical organisation of their settings to achieve this goal or a language enriching environment.

As discussed previously, the LLLI programme uses video recordings as part of the training programme. There were five video sessions per participant and one additional baseline video clip. With informed consent from staff and parents, the video recordings of staff-child interactions for 11 staff were evaluated for changes in the use of targeted interventions. It should be remembered that the primary aim of these video recordings was training and not data collection or analysis. The aim of this evaluation was to determine if reported changes in interaction style were evident in increased scores on the TILRS, across the time points.

Five minutes of video data for each teacher was collected at three different time points – pre-training, at mid-point of the training and following completion of the LLLI programme. The recordings aimed to capture targeted interactions between the child/children and the teacher. These video recordings were subsequently analysed using the Hanen LLLI Program Teaching Interaction and Language Rating Scale (TILRS). This scale was designed to capture teachers' interaction across eleven parameters prior to and immediately following the training. Strategies assessed using the TILRS were a direct reflection of those targeted within LLLI and included:

WAIT AND LISTEN

- Waiting expectantly for initiations
- Using a slow pace
- Listening to allow children to complete their messages

FOLLOW THE CHILD/CHILDREN'S LEAD

- Responding verbally to initiations
- Using animation
- Avoiding commands and vague acknowledgements

JOIN IN AND PLAY

- Building on their focus of interest
- Playing without dominating

FACE TO FACE INTERACTION

- Sits on the floor or in child sized chair
- Learning forward to facilitate face to face interaction
- Bending down where possible to be at the child's level

USING A VARIETY OF QUESTIONS

- Asking a variety of "wh" questions
- Only using yes/no questions to obtain information and to clarify messages
- Waiting expectantly for a response
- Avoiding test and rhetorical questions

ENCOURAGE VERBAL TURN TAKING

- Linking comments and questions to invite children to take turns

- Responding with animation
- Waiting expectantly for a response
- Balancing the number and length of adult to child turns
- Using sentence completion only with children at one word stage

SCAN (SCANNING ALL CHILDREN IN THE GROUP)

- Encouraging uninvolved children to participate and/or interact
- Ensuring that no one child dominates the interaction

IMITATING (FOR PREVERBAL CHILDREN AND CHILDREN AT ONE WORD STAGE)

- Imitates actions, gestures, sounds or words of most of the children in the group

USING A VARIETY OF LABELS

- Emphasising key words
- Repeating words
- Labelling objects, actions, attributes and events
- Avoiding non specific words (e.g. it, this, that, there, thank-you)
- Adjusting complexity of vocabulary for different children in the group

EXPANDING LANGUAGE

- Repeating children's words and correcting the grammar
 - Repeating the children's words and adding another idea
 - Extending language.
 - Using comments and questions to
 - Inform
 - Project
 - Pretend/imagine
 - Explain
 - Talk about the future
 - Talk about feelings

Each strategy is measured on a 1-7 Likert scale. TILRS ratings can be grouped in to the following three levels:

- 1-3 needs improvement, recommended as a training goal
- 4-5 fine tuning needed, possible future goal
- 6-7 meets expectations

A total score was then calculated based on the addition of the ratings across the parameters, yielding a 'score' potentially ranging between 11 and 77 for each video recording.

Two qualified SLTs, otherwise independent from the project, watched each video recording together and independently analysed the content using the TILRS. The researchers then consulted and compared ratings, seeking inter-rater agreement. A final rating was then agreed upon through discussion. In order to improve intra-rater reliability and with the assumption that overall accuracy improved as the analysts became more familiar with the rating scale, the first two recordings were re-analysed. The researchers involved in rating the video clips were blind to the timing of each video recording.

4.1 Results of the analysis

From the outset a clear trend of positive interaction behaviours was evident across the preschool staff. Prior to training,

- 90% achieved a score of 6 or 7 in 'Face to Face' indicating that staff were adept at physically positioning themselves at the child's level to encourage eye contact and interaction.
- 50% of staff scored 6 in 'Join In and Play' highlighting their skill in actively joining in as a play partner without dominating and through focusing on the child's interest.

- Another relative strength noted prior to training was that 50% of the preschool staff at least ‘frequently’ used a variety of labels and vocabulary items. A high score in this parameter is achieved by appropriate emphasis, repetition, labelling and complexity of vocabulary used.

The pre-training videos therefore highlighted significant strengths in particular areas, emphasising the importance of pre-training evaluation to obtain a baseline and support the customisation of training mentioned in the earlier discussion.

Analysis of TILRS scores across all three videos for each participant yielded ambiguous findings. Many staff increased their scores across the three time points and this was reflected in increased scores and an increasing range of skills coded as ‘meets expectations’. However several staff scored lower post-training than before training. Interestingly, some showed increased scores from pre-training to mid-training, and then showed a decline at post-training.

The following colour coded table illustrates the scores achieved by each staff member. In order to protect anonymity, participant numbers have been removed. The context in which videos were recorded varied greatly across the three time points and this uncontrolled variable is likely to have impacted significantly on these scores. As discussed previously, these video recordings were part of the training programme and were not collected as a means of evaluating change. These factors indicate that the scores obtained cannot be reliably interpreted. Therefore, while analysis of the video interactions provided useful information on individual staff participants, the analysis was of likely of most benefit to the individual staff member as a reflective tool, rather than as a measure of change over time.

Table 4: Preschool Staff members scores on TILRS

MEETS EXPECTATIONS:  FINE TUNING NEEDED - SHOULD BE A GOAL:  NEEDS IMPROVEMENT - FUTURE GOAL: 

Context	Time	Wait & Listen	Follow the child's lead	Join in & Play	Face to Face	Use variety of O's	Encourage verbal turn making	Scan	Imitate	Use variety of labels	Expand	Extend	Total Score
TEACHING	PRE	2	2	3	6	5	4	5	n/a	5	1	2	35
PLAY	MID	4	4	6	7	5	5	n/a	n/a	7	2	3	43
PLAY	POST	5	6	7	7	5	6	n/a	n/a	6	4	6	52
PLAY	PRE	6	4	6	7	3	3	7	7	3	n/a	1	47
PLAY	MID	5	5	5	7	3	5	n/a	6	7	n/a	2	45
STORYBOOK	POST	2	2	2	6	2	2	2	1	3	1	3	26
PLAY	PRE	3	4	6	7	4	4	4	3	5	1	1	42
PLAY	MID	2	2	4	6	2	3	3	3	4	3	2	34
STORYBOOK	POST	1	2	2	6	3	2	1	2	3	n/a	3	25
TEACHING	PRE	2	2	3	7	3	4	1	n/a	6	3	2	33
MEALTIME	MID	7	3	3	6	3	4	1	n/a	2	2	1	32
SINGING	POST	3	2	2	6	4	2	n/a	n/a	2	1	1	23
PLAY	PRE	1	2	3	6	2	3	2	1	2	1	2	25
PLAY	MID	3	4	5	7	5	5	n/a	n/a	6	4	5	44
MEALTIME	POST	3	4	4	5	3	4	4	2	2	2	3	36

5. Speech and Language Assessment Results

In development of this project, formal assessment of the children's speech and language skills before and after training was planned in order to determine the impact of the improved language enriched environment following the LLLI training of preschool staff. Unfortunately, due to the timing of these assessments, the majority of the children had transferred out of the preschool to primary school before re-assessment could take place. Therefore the data gathered is presented to contextualize the speech, language and communication needs of this cohort of children. As has been previously noted, children from lower socioeconomic status (SES) areas are frequently reported as being particularly vulnerable to speech, language and communication difficulties, with estimates as high as 10- 25% (Pungello et al., 2009, Stein et al., 2008, Reilly et al., 2010, Schoon et al., 2010) reported in some studies.

In order to obtain a full picture of the children's' speech and language abilities, a number of formal assessments were administered. These assessments were selected to capture change in both speech and language skills. In collaboration with the Department of Clinical Speech and Language Studies in Trinity College Dublin, assessments were carried out by SLT students under the supervision of a qualified SLT and HSE SLTs.

The assessments used included:

- Assessment of expressive and receptive language abilities:
 - Preschool Language Scale 4 (PLS-4) (Zimmerman et al., 2008): The PLS-4 is a norm referenced assessment that has been standardised on a sample of American children aged 2;00-5;11. The assessment aims to evaluate preschool aged child expressive and receptive language through mainly play-based activities.
 - Renfrew Action Picture Test (RAPT) (Renfrew, 1997): The RAPT was designed as a time-efficient assessment of grammatical usage and the child's overall ability to convey information units verbally. The RAPT was standardised on a sample of children in the United Kingdom aged between 3;00 and 8;00 between 1987 and 1988. It should be noted that children from non-English speaking homes were excluded from the original standardised sample. Informal.
- Assessment of speech sound production using the phonology assessment from the Diagnostic Evaluation of Articulation and phonology (DEAP) (Dodd et al., 2002). The DEAP was initially standardised on a large (n=828) UK and Australian sample aged 3;00-6;11, and has since been standardised using an Irish sample (n=306). The phonology section of this assessment was used in order to determine if speech was developing appropriately.

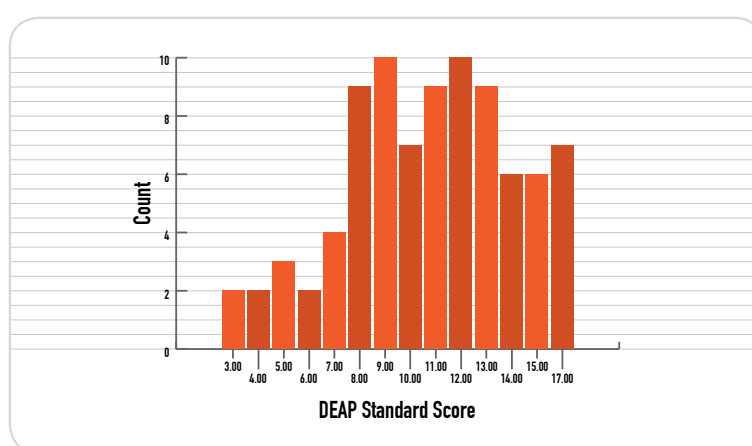
It should be noted that only one of the above assessments were standardised on an Irish population, none were standardised on a travelling community, a bilingual population, or with children with primary social, emotional or behavioural difficulties (SEBD). This limitation should be borne in mind when interpreting the results of assessments.

Table 5: Speech and Language Assessments used

Assessment	Reference	
Preschool Language Scale -4 (PLS-4)	Zimmerman et al., 2008	Play based assessment used to evaluate expressive and receptive language abilities
Renfrew Action Picture Test (RAPT)	Renfrew, 1997	Picture description task to assess sentence structure, grammatical usage and information communication
Phonology section from Diagnostic Evaluation of Articulation and phonology (DEAP)	Dodd et al., 2002	Ten minute assessment to determine whether or not a child has typically developing speech.
Pre-literacy Ratings scale (Subtest of Clinical Evaluation of Language Fundamentals Preschool 2)	Wiig, Secord & Semel, 2006	26 item scale to rate the child's emerging reading skills

5.1 Assessment results

During the pre training focus groups, the preschool staff in this project reported that “90% of our children have speech and language difficulties”. The mean scores achieved by participating children on the standardized measures used were well within the average range both for speech and language skills. However for language scores a more detailed analysis of the profile indicated that while most of the group were doing well, more children were identified at the severe end of the range than would be expected. While 95 children in total took part in assessment, full data for all children was not obtained. This was due to either non attendance in preschool when SLTs attended to complete assessments, or it was inappropriate to administer some assessments with children who presented with English as a second language (ESL).



5.1.1 Speech Profile

In relation to speech performance, standard scores of 7 or higher on the Diagnostic Evaluation of Articulation and Phonology (DEAP) are considered average. DEAP standard scores for 86 children were obtained. The mean score across the children assessed was 11 (range 3-17). In general this cohort of children presented with speech scores which followed the normal distribution expected for all children, with a significant group who achieved very high scores. Therefore as expected, 10% of the children achieved standard scores below 7 on the DEAP, indicating a speech difficulty which requires intervention. The chart below shows the distribution of scores:

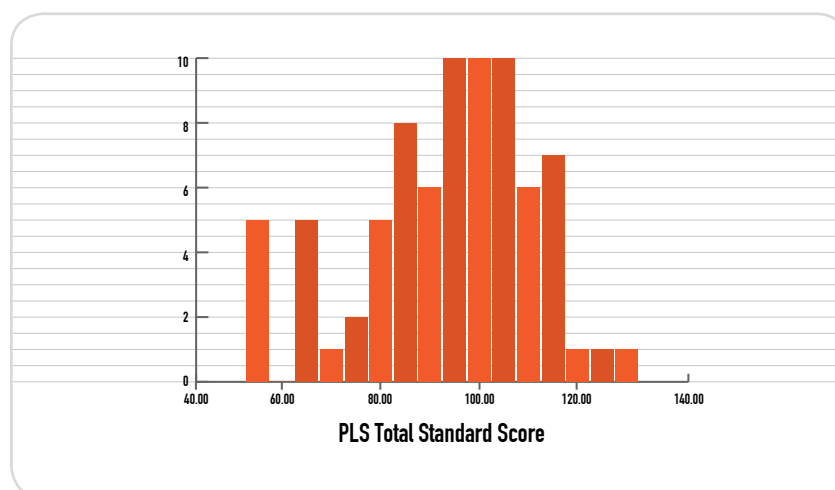
5.1.2 Language scores

On the Preschool Language Scales (PLS) test full data was obtained for 78 children. On this test, standard scores between 85-115 are considered average. A standard score which is more than 1 Standard Deviation (SD) away from the mean is considered moderately above or below average, and scores that fall 2 SDs either side of the mean represent very low or high scored. In a normal distributions, only approximately 3% of children would be expected to be in this band. On the total language score, the range of scores extended from 55-130 and the mean score was 93, comfortably within the average range. However more in-depth analysis of scores indicated that there is a higher percentage of children in the very low range than would be expected from a normal distribution curve. The PLS comprehension, expression and total language scores are detailed in the table below:

Table 6: Preschool Language scale scores

	Receptive Language score	Expressive Language score	Total Language score
Average and Above	72%	68%	69%
Below Average (- 1SD to - 2SD)	16%	19%	17%
Significantly Below Average (- 2 SD below)	12%	13%	14%

Considering the PLS total language scores, 31% of the children achieved language scores indicating a need for intervention with 69% scoring in the average range and above, compared to expectations of 83% in this range. Of the 31% of the children who achieved scores indicating a need in this area, 14% of these achieved extremely low scores. This is considerably higher than would be expected if the scores were normally distributed where the ratio of moderately low: very low scores would be expected to 4.5:1 rather than almost 1:1 as represented here. (see graph below)



In other words, while a considerable proportion (almost 70%) of children achieved scores in the average range, and the mean score for the group was well within the normal range, a larger than expected number of children achieved scores in the low, but particularly in the very low range ($-2SD$). The peak in very low scores suggests that children who struggled on this test tended to have significant language difficulties.

Due to timing difficulties, it was not possible to separate out test results from pre- and post-intervention, and there were very few children who were assessed at both time points. As a result, the findings here reflect children who have had considerable input from ECCE staff as well as those who have just started into the service. Furthermore, many children were acquiring English as a second language but on the whole, these children were assessed on speech rather than language measures. As identified in research and discussed previously, 10-25% of children in low socio economic areas are widely reported as vulnerable to SLCN. This data identify an even higher prevalence of 31%, with a peak in children with very significant language difficulties. It is possible that the ratio of moderately low: very low scores has been influenced by the interventions of ECCE staff – children who otherwise might have achieved moderately low scores (0 to $-1SD$) may have been enabled to achieve scores within the average range. The same interventions may have been insufficiently targeted to meet the needs of children with very significant difficulties.

This data suggest the changed language enrichment environment that results from universal training such as offered here, i.e. training all staff in language enrichment strategies, will be of benefit to most children and will pull them from below average into the average range, but there will always be a number of children whose needs are so significant that specialist services are required alongside the universal skills.

The skills addressed in the LLLI training are evidence-based, with demonstrated effectiveness in enhancing the language learning of children experiencing difficulties. Further benefits of this training will come into effect as preschool staff embed the strategies into their interactions with all the children attending these centres.

Finally, it is worth noting that in the structured interviews with preschool staff, most staff expressed confidence in their ability to identify children with speech and with language difficulties, although the behaviours they described primarily linked to speech production. The assessment of the children in this project suggests a higher prevalence of language than of speech difficulties. Almost 90% of the children assessed in this project achieved standard scores within the average range on the measure of speech production, compared to 69% achieving scores within the average range on the PLS total language score. Therefore training that focuses on language abilities will assist teachers to identify language deficits as well as speech deficits.

6. Implications

Ultimately the goal of this project was to inform future practices related to preschool staff relationships with SLT services within their community. A wealth of information is now at our disposal to positively influence future training practices as well as relationship development. In particular the second training group was received positively almost unanimously.

6.1 Maximising Effectiveness of Training

Preschool practitioner training has been shown to be effective previously. The following factors were perceived to most positively contribute to a successful training experience:

Endeavouring to solicit expectations and objectives of the preschool staff prior to the training and then making clear what would, and would not, be covered in the training helped set clear expectations. A pre-training orientation meeting worked well in facilitating this and also in encouraging relationship development. Furthermore, preschool staff should be encouraged to set their own objectives and take responsibility for their own learning (Knowles, 1970). Participants must have an internal motivation to learn, and therefore must see the benefits of participating in the training. This 'buy in' is necessary in accordance with Knowle's principles, which was facilitated by the pre-training orientation. It was vital to match the content of the training to the needs of the participants. In the present project, no complaints were made of the content being 'too difficult', only 'too basic'. Adult learners must be challenged, respected, and their knowledge recognised. Furthermore, it was found that collecting ongoing feedback on a weekly basis contributed to facilitator awareness of potential concerns of participants.

Group training was noted to positively influence training, and the facilitators capitalised on positive group dynamics and mutual learning through role plays, discussion and brainstorming. The availability of individual sessions with the participants were consistently well received.

Facilitators and participants alike reported that adding additional training on other topics such as bilingualism, Autism spectrum disorder; fluency and speech development were beneficial. Participants relished the 'practical nature' of the course content however all noted that as the LLLI content is an evidence based programme, there is limited ability to change the content without impacting on the expected outcomes of the training.

6.2 Future directions

Prior to this project, preschool staff interviews indicated there was uncertainty surrounding not only the role of the SLT itself but also relating to SLT care pathways and referral routes. As a result of the training and the SLT-Preschool link visits, there is now increased communication between the SLT department and all preschools.

SLTs must be aware that if a preschool has had previous negative experience working with a SLT, this may impact on future relationships between SLT and preschool staff. Preventing negative experiences is therefore important. The data collected from focus groups and interviews indicate factors that contribute to positive relationships mainly relate to communication factors, including accepting and validating preschool teacher opinion and knowledge. Ensuring that all SLT services are communicatively accessible was also raised as a necessary change. In particular teachers raised the difficulty of parents with literacy difficulties experience in accessing services.

At a preschool level, some staff expressed concern regarding the time associated with implementing SLT recommendations and attending meetings with the SLT department. Difficulties releasing staff from the classroom coupled with and SLTs busy clinic schedule all contribute to difficulties in finding the time to liaise. This is one reason why the SLT-Preschool link visit was so successful. As the SLT left the clinic and came to see the preschool staff in their classroom, communication was increased. However this was a project that was limited in scale. The

SLT department remains challenged to provide ongoing resourcing to continue to support the link visits with the preschools while maintaining the clinic service. While this project has developed a working model of service delivery, the resources required to move the model to other preschool settings in the area are vast. Equity of access to services for all children in the area must be maintained.

As HSE services are allocated according to home address and not preschool address, there were a number of children who did not reside in the local catchment area and therefore attended SLT services close to their home. There were also some children with disabilities who worked with an SLT with specialised knowledge of that disability. Health and disability service pathways can be complex to navigate and the link visit allowed the SLT to assist the preschool staff and parents in accessing the correct service. Some models of service delivery to preschools focus on direct work with the child in the preschool setting. However this may lead to dual service provision which is not appropriate for children. Therefore the link visit model employed here was collaborative and discussion based.

The current project demonstrated the effectiveness of preschool staff training in an Irish context in terms of developing language enrichment skills in the preschool, improving child language abilities and enhancing the Preschool-SLT relationship.

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