

Specific Speech and Language Impairment in Children:

Definition, Service Provision and
Recommendations for Change

The logo for the Irish Association of Speech and Language Therapists (I.A.S.L.T.) is a light green speech bubble with a white outline, containing the acronym "I.A.S.L.T." in a dark green, serif font.

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• **Irish Association of Speech and Language Therapists** •

POSITION PAPER : OCTOBER 2007

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Foreword

Children with Specific Speech and Language Impairments (SSLI) constitute a significant group in our society. The Speech and Language Therapy profession has a key role to play in enabling these children to reach their potential, in partnership with them, their families and other health and educational personnel.

In Ireland, services to children with SSLI have been developing over many years. Evidence based research and clinical experience must inform practice and are essential components of policy and service development. In this context IASLT recognises the need to review aspects of current provision and to develop services further.

This position statement on SSLI, on behalf of Speech and Language Therapists, endeavours to contribute to a shared understanding of SSLI, its implications for those affected and the steps needed to develop, improve and standardise services.

IASLT hopes that this document will provide a basis for discussion and partnership, working with all those interested in enabling children with SSLI to achieve the best outcomes possible.



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Executive Summary

This paper has been written by the Irish Association of Speech and Language Therapists (IASLT) to define and describe Specific Speech and Language Impairment (SSLI) and address the role of the Speech and language therapist (SLT) in the provision of services to children with SSLI.

The paper will serve as a reference for speech and language therapy services, Health Services Executive (HSE), Department of Education and Science (DES), Department of Health and Children (DoHC), children with SSLI, their families and other key stakeholders. IASLT is aware of the need to define, describe and develop best practice within the context of changing social, legislative and policy frameworks.

The focus of this paper is to outline the role of the SLT in the management of individuals with SSLI.

IASLT defines this impairment as follows:

"Specific Speech Language Impairment (SSLI) is a term currently used (1,2) to describe children whose skill in understanding and/or expressing themselves through speech and language is significantly impaired. These difficulties occur in the context of normal cognitive abilities and are not primarily attributable to social, emotional, behavioural, educational, physical or sensory difficulties".

(IASLT 2007)

The aim of the paper is to provide information that will underpin best quality service provision to individuals with SSLI that is equitable and accessible. It intends to influence the actions required to ensure optimum effectiveness of current legislative changes (3,4) in relation to child health and education.

The position paper provides the following:

- **A brief summary of current theory underpinning the diagnosis of SSLI.**
- **A description of the role of the SLT in the diagnosis of and intervention with SSLI.**
- **A pathway of care required for individuals presenting with SSLI at preschool, primary school and second level education in order to ensure delivery of optimum intervention and effective support, in line with best practice.**
- **Recommendations for future multidisciplinary management of this client group.**

Recommendations for agreed terminology to be adopted and promotion of collaborative practices to ensure that the specific needs of the individual with SSLI are met.

Section 1

Definition / Description of SSLI

1.1 Normal Language Development

The development of effective communication skills is critical to cognitive, social and emotional development and central to positive self-esteem, learning and the development of relationships. In order to understand SSLI, it is important to initially focus on typical speech and language development and the modalities involved in the development of speech and language. To be an effective communicator an individual needs to develop:

- **Receptive language**, which is the ability to understand what others say.
- **Expressive language**, the command of sounds and spoken language.
- **Pragmatics**, the ability to use language appropriately in social situations.

"Receptive and expressive language skills depend upon developing a knowledge of the sounds of a language, i.e. **phonology**, knowing how meaning is attached to specific sound patterns which we know as words i.e. **semantics**, and the rules for how words are combined to make units of meaning i.e. **grammar**. These language skills must then be used in a socially aware, flexible way which has regard for the needs of the partner in any exchange i.e. **pragmatics**". (5)

The acquisition and development of all of these areas are interdependent and difficulties in one area may have repercussions throughout the entire language system. Many labels are used to describe speech and language difficulties.

1.2 SSLI versus Speech and Language Delay.

The term 'speech and language delay' is used to describe a child's speech and language profile that is developing along the normal developmental pattern but is delayed when compared to his/her peer group. The term specific speech and language impairment implies a deviation in the usual rate and/or sequence with which speech and language skills emerge. (6)

1.3 Terminology.

The terms Specific Language Impairment (SLI), Specific Speech and Language Impairment (SSLI), Specific Language Disorder (SLD), Specific Speech & Language Disorder (SSLD) and Language Learning Disability (LLD) are used in the literature. The term SLI is the term more frequently used in the current literature. The term SSLI is used throughout this paper in order to reflect both the language and speech components of the impairment.

1.4 Diagnosis

SSLI is a condition differentiated from other conditions that include disruptions of language performance. It denotes the exceptional problems that some children have in learning and generalizing certain language skills. The continuing difficulties they demonstrate with language simply cannot be viewed as anything but a disability. (6)

Children with SSLI are generally described as a heterogeneous group. While research into subtypes of SSLI is ongoing, three profiles of language difficulty may be apparent:

1. Children whose understanding and production of language is equally impaired.
2. Children who have a considerable gap between understanding and production with production being the more impaired.
3. Children with particular difficulty with aspects of language form e.g. grammar or phonology, or language use e.g. **pragmatics**. (6,22)

Lees and Urwin (7) state that children with SSLI can present with a profile encompassing the following features:

- A close positive family history of specific difficulty in speech, language and literacy development.
- A mismatch between the various sub-systems of language in relation to other aspects of cognitive development.
- Evidence of cerebral dysfunction, either during development or by the presence of neurological signs.
- A failure to overcome these difficulties with generalised language help.

The DSM IV (8) and the ICD 10 (9) classifications of diseases state exclusionary and discrepancy criteria required for a diagnosis of SSLI. These are:

1. Performance on a language test is below the child's chronological age.
2. A discrepancy exists between the child's language skills and his/her non-verbal abilities.
3. The language impairment cannot be attributed to any other cause.

The DSM IV also includes a criterion that the language difficulties interfere with academic or occupational achievement or with the social communication of the individual with SSLI.

Such exclusionary and discrepancy criteria in relation to language and IQ scores have been adopted by the Department of Education and Science in Ireland, in for example the Special Education Review Committee Report (SERC, 1993) (10), more recently in the document, "An evaluation of special classes for pupils with SSLD" (11) and in the DES circular regarding enrolment criteria in SSLD classes (DES Circular 38/07). (12)

These criteria are as follows:

In order to be described as having a specific speech and language disorder pupils should meet each of the following criteria:

- (i) Assessment by a psychologist on a standardised test of intelligence, which places non-verbal, or performance ability within the average range or above. (i.e. non-verbal IQ of 90, or above)
- (ii) Assessment on a standardised test of language development by a speech therapist which places performance in one or more of the main areas of speech and language development at two standard deviations or more below the mean or at a generally equivalent level
- (iii) The pupils' difficulties are not attributable to hearing impairment, the hearing threshold for the speech related frequencies should be 40dB
- (iv) Emotional or behavioural disorders or a physical disability are not considered to be primary causes.

The use of an average non-verbal IQ criterion has as its objective the ruling out of a general learning disability (13) and ensuring that children who have wider needs are not inappropriately placed in specialist provision intended primarily for language (where their needs might not be met). Rigid adherence to specific criteria is inappropriate for a number of reasons including the following:

- The inadequacy of standardized assessment tools to capture the full extent of a child's language difficulties and their impact on overall functioning. Standardized tests should only be considered as one aspect of a comprehensive assessment process. (14)
- The evidence that certain non-verbal cognitive skills have been found to be weaker in children with SLI than their peers (15) and lack of clarity around the exact relationship between cognition and language. (6)
- The fluctuation of IQ scores particularly as children with SLI get older. (16, 17, 18)
- Difficulties associated with IQ testing of younger children (14, 19) and with the implementation of non-verbal intelligence tests to children with language problems, as many of these require a verbal response. (20)
- Research pointing to the unreliability of discrepancy scores arising from assessment on different occasions or when different assessment tools are used. (19,21,22)

Currently in Ireland, the Department of Education & Science (DES) requires a score of -2.0 standard deviations below the mean on a language assessment in order to meet one of the criteria required to receive a diagnosis of SSLI. Resources are allocated to children who meet the DES criteria. Research clearly indicates that such a cut-off point eliminates many children with clinically significant language impairments. (6, 21) Adherence to a non-verbal IQ criterion of 90 is similarly inappropriate given the above-mentioned difficulties around measurement and with criteria based on IQ language discrepancies.

Bishop (2004:310) states *"an insistence on stringent discrepancy and exclusionary criteria has no rational justification in clinical and educational contexts"*. (19)

This issue is addressed further in section 5: Recommendations.

1.5 Prevalence

An extensive population based US study reported a prevalence of SSLI in Kindergarten children, (5 year olds) of 7.8%. (23)

5% of children in the UK, i.e. 36000 of children in year 2 of school have SSLI (Law et al). (24)

Taking 5% as a reasonable benchmark for prevalence, it can be estimated for example that 5,818 children (from population census 2006) aged between 5 and 6 years in Ireland, present with SSLI.

1.6 Clinical Presentation of SSLI

1.6.1 Speech and Language profiles:

The speech and language profiles of individuals with SSLI are varied and diverse due to the changing nature of the disorder from preschool to adolescence and its heterogeneous nature.

The preschool child with SLI may present as slow to react to speech and language and to interact with others. They may need support from gesture in order to understand, be slow to acquire first words, have no or limited expressive language, have hard to understand speech, demonstrate use of **echolalia** and have difficulty initiating and sustaining conversation. Alongside these language-related features may be poor attention and listening skills and displays of frustration and withdrawal. (6,7,25) At school age they may have difficulty understanding spoken and written language including

concepts, non-literal language and humour. Difficulties with making sentences and expressing and sequencing ideas, producing a coherent narrative, poor **word retrieval** and limited vocabulary may also be apparent. (25,26,27) Deficits in **phonological awareness** and with all aspects of literacy including, reading, spelling and writing may be present. (25, 28, 29)

Some school-aged children with SSLI have limited friendships and poor peer interaction.(30) This may arise from limited ability with more complex conversational skills such as negotiation and persuasion and with understanding non-literal language. Some children with SSLI may not have their difficulties identified in the early school years. (31)

Many of the features of SSLI presenting at school age also prevail into adolescence. (32,33)

At this stage for those with a higher-level comprehension difficulty, when complex explanations are offered, their confusion is compounded and there is potential failure in subjects involving language interpretation and analysis. (29,34)

At school the adolescent with SSLI may experience increased levels of difficulty in language rich subjects, find their "best effort" is never enough and require extra energy to keep up. The effect of their earlier language difficulties may result in them being behind in prior knowledge with a restricted range of learning strategies. (35,36)

Some adolescents with SSLI may present as **verbose**, use **circumlocution** and have persistent difficulty with interpreting language ambiguities such as deceit and humour. Inappropriate social behaviour, social isolation and poor eye contact may also be apparent. (29,37,38)

The above descriptions of profiles of SSLI are by no means exhaustive and include common characteristics of SSLI. It should be noted that some of these are not exclusive to children with SSLI. Children with SSLI also present a continuum of difficulty in certain areas with relative strengths in some. Thus the preschool, school-age child and adolescent with SSLI with milder impairment may have difficulties in one domain only.

Each child will present with a unique combination of these features requiring a range of diagnostic assessment and intervention strategies to be carried out by the SLT.

1.6.2 Linguistic Clinical Markers

Recent research reported by Bishop et al (2004) (19) and others (6,39) has found a number of clinical markers for SSLI. These include poor non-word repetition and poor grammatical morphology. Screening for these markers could help with earlier and more accurate identification of the presence of SSLI and some screening tools are now available or being developed to address this. (39,40)

1.6.3 Associated Difficulties

Substantial co-morbidity exists between SSLI and poor motor-skills (41) and with other diagnostic categories such as ADHD. (42) Children with SSLI can have difficulties in other non-linguistic cognitive areas including symbolic play, and mental imagery. (43) These difficulties can impair their ability to access the curriculum and develop their social relationships at home and at school. (44) An interdisciplinary approach with occupational therapy, psychology, educators and other disciplines is necessary.

1.6.4 Long-Term Nature and Consequences of SSLI:

SSLI is a life long impairment with risks for poor social functioning, reduced independence and restricted employment opportunities. (6, 25, 45)

Individuals with SSLI may experience "a substantial restriction" in their "capacity to carry on a profession, business or occupation or to participate in social or cultural life by reason of impairment". (4)

Early identification is crucial and educators need to be aware of the possibility of SSLI as a contributory factor in academic failure and poor emotional well-being.

Section 2

Current Service Provision

2.1 Current Provision

In Ireland children with SSLI access health related services including SLT via the Primary Continuing and Community Care (PCCC) directorate of the Health Service Executive. The level of service to individuals with SSLI varies within the PCCC areas. Provision is resource led with no specific services being provided at the preschool and adolescent level.

2.2 Pre-School Provision

There is one language unit in the country that provides a dedicated pre-school service for children with SSLI.

2.3 School-Aged Provision

For school aged children an arrangement exists between the DES and DoHC (Department of Health & Children) to provide school-based SLT to children via attendance at an **SSLD class**. These classes, termed SSLD (Specific Speech & Language disorder) classes by the DES are in mainstream schools. They have a pupil-teacher ratio of 7:1. SLT is provided by arrangement with the DoHC and the therapy delivery is integrated with the educational provision. Currently there are 54 SSLD classes in the country.

To date the only model of intensive speech and language therapy provision available to children with SSLI is through attendance at an SSLD class. Children attending SSLD classes do so on a full time basis for an average of two years. A survey of SSLD classes by DES Inspectorate in 2002 indicated a significant variation between SSLD classes in the amount of SLT service provided. (46) There is a longstanding misguided belief that SSLI is a short term and largely resolvable condition. Based on this belief language units and classes were established to act as a "booster" placement which children attend for one to two years. (47) There is no evidence base supporting this. Research and practice into SSLI have highlighted the long-term nature of the disorder. Consequently attendance at an SSLD class can only be regarded as one part of a child's continuum of care.

Best practice suggests that a continuum of provision is the optimum service requirement for individuals with SSLI. (47) Options such as part time attendance in a language class, school based speech and language therapy provision outside the SSLD class context and phased reintegration to mainstream for children in SSLD classes are not typical. Despite the fact that SSLI is known to be a long-term disability, a continuum of provision is not available in Ireland.

2.4 Legislation

The Education for Persons with Special Education Needs Act 2004 (EPSEN), section 21 (g) states: One of the functions of council (National Council for Special Education) is "to ensure that a continuum of special educational provision is available as required in relation to each type of disability". (3)

Section 3

The Role of the SLT & Clinical Care Pathways

3.1 The Role of the Speech & Language Therapist:

SLTs have a critical role in the diagnosis of SSLI and ensure that appropriate formal and informal assessment tools are used to provide a comprehensive profile of an individual's communication abilities. Intervention goals that have a meaningful impact on their social, educational, emotional, behavioural and vocational functioning in a variety of settings are provided.

- SLTs play a role in promoting communication abilities that further the independence and self-advocacy of persons with SSLI.
- SLTs work with parents, caregivers and professionals to coordinate services that are family centred, culturally appropriate and comprehensive.
- SLTs have a role as advocates for individuals with SSLI. They aim to ensure that decisions about service delivery models, settings, and how services are delivered, are based on the individual needs and preferences of persons with SSLI.
- SLTs advocate an inter-disciplinary and collaborative approach to the provision of services as vital for this client group. This team may consist of some or all of the following professionals: occupational therapists, physiotherapists, paediatricians, psychologists, teachers/educators and SENOs (special education needs organiser). It may be necessary to deal with other DES, DoHC and HSE personnel if required by an individual with SSLI.
- Given the complex nature of the presenting difficulties, collaborative practice between SLTs and Educators is vital for individuals with SSLI and requires continued support and development.
- The SLT needs to be aware of the legislative changes in the provision of services to the individual with SSLI, ensuring an accessible continuum of care is provided.
- SLTs share knowledge and inform parents/carers, service providers and others to appreciate the impact of SSLI for future learning and functioning.
- SLTs managing SSLI require a senior level of clinical experience. It is also necessary that access to training and research be provided to support continuing professional development (CPD).
- The SLT needs to ensure that resources are provided to ensure individuals with SSLI obtain the appropriate services, to facilitate their communication skills and enhance their life opportunities.

3.2 The Care Pathway

The overall care pathway in speech and language therapy as outlined by RCSLT is stated overleaf. IASLT shares the view of RCSLT regarding this care pathway for clients.

- Referral.
- Diagnostic assessment.
- Formulation and negotiation of short and long term goals with all parties involved.
- Episodes of speech and language therapy intervention with ongoing monitoring of progress towards goals.
- Reassessment at key junctures.
- Planned and measurable discharge or transition to self-management/other form of care.
- Clearly stated, workable, onwards and sideways referral criteria. (48:197)

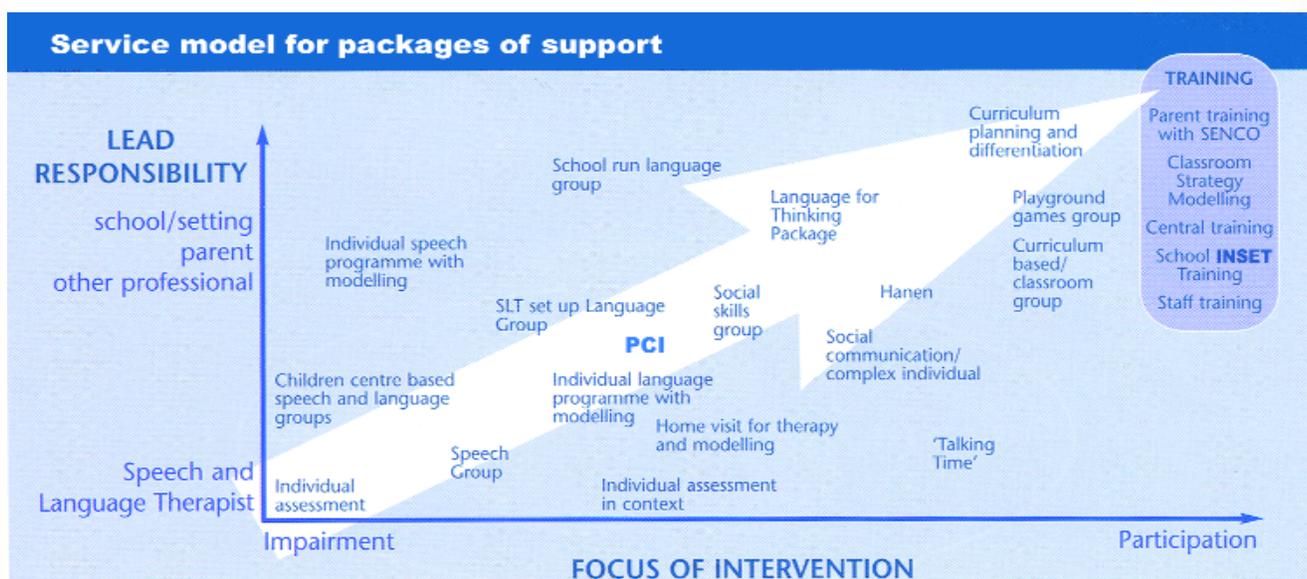
3.3 Individual Care Plans and Continuum of Care

IASLT supports the following:

- Each person with SSLI requires an individualised multidisciplinary care plan, which takes into account the long-term changing nature of the impairment.
- An individual pathway of care should outline the inter-disciplinary services and resources required for individuals presenting with SSLI at pre-school, primary and second level to ensure delivery of optimum intervention and effective support in line with best practice.
- The care pathways are child centred, family orientated, equitable, inclusive, action orientated and integrated in line with the Department of Health & Children's Best Health for Children (1999) and the National Children's Strategy (2000) (49,50)

It is best practice that a continuum of support for children with SSLI be tailored to their changing needs. At a particular stage in a child's life it may be that the SLT takes the lead in the provision of care in the form of direct intervention. At another stage educational personnel may lead care, with emphasis on the child's activity and participation in, for example, the school environment. A child experiencing significant social and emotional difficulties as a result of his/her language impairment may need supports to be led by a child guidance team.

The following diagram illustrates an example of how the role of the SLT can vary depending on who has lead responsibility for the child and what the focus of intervention is at a particular time. The role may vary from working at the level of impairment in the form of direct therapy, to providing training and inputting into curriculum planning. The ultimate goal of intervention with a child with SSLI is to facilitate the child's maximum participation in his/her natural environment.



(Gascoigne, M 2006) (51)

Section 4

Issues Relating to Current Service Provision

It is the position of IASLT that the current criteria for educational support are not cognisant of the changing needs of the child with SSLI.

4.1 Access to Diagnostic & Intervention Services

The legislative changes introduced through the EPSEN and Disability Act need to be supported through increased resources to ensure an accessible continuum of care is provided.

These changes have highlighted the lack of interdisciplinary personnel required to provide individuals with SSLI with the diagnostic and intervention services they require. Key points noted in an unpublished IASLT survey of all speech and language therapy services in Ireland to individuals with SSLI (53) were:

1. Lack of timely access to assessment.
2. Provision of inadequate models of and levels of intervention for both preschool and school age children.
3. Limited or no service to adolescents.
4. Inadequate interdisciplinary collaboration at all stages in the clinical care pathway.

4.2 Access to appropriate placements

The SERC criteria (1993) (10) remain in place as a means of accessing language classes and resource teaching for school-aged children with SSLI. These criteria and current service models do not take into account:

- The individual with SSLI requires an individualised interdisciplinary care plan, which considers the long-term changing nature of the impairment.
- At present the only specialised provision is a language class. Access to appropriate service provision is required for example, specialised preschools, resource allocation plus SLT within mainstream, part-time language class attendance. The needs of the individual would direct the service provided. Children with SSLI who do not obtain a place in a SSLD class do not receive the level of SLT intervention required due to lack of resources within the PCCC structure.
- The long-term nature of SSLI. Children who leave an SSLD class may no longer be deemed to require such an intensive level of provision. When it is indicated that they require further educational support, as is often the case given the long term nature of the condition, they are required to meet the same discrepancy criteria to access resource teaching as they met for access to the SSLD class in the first instance.

The aim of intensive intervention in an SSLD class is to bring about an improved outcome for the children. However given the long term nature of the disability it is also possible that children with SSLI may continue to experience difficulties with language functioning in academic and social contexts following discharge.

Many of the pervasive language functioning deficits experienced by these children are not adequately identified via standardised language assessments, therefore the DES requirement of -2.0 standard deviations below the mean should no longer be a requirement for accessing classroom supports. IASLT is strongly of the view that qualitative information regarding the child's functioning must be taken into consideration for the provision of educational resources.

4.3 Service Delivery Issues

At present service delivery to individuals with SSLI varies within HSE funded SLT services. Children with a diagnosis of SSLI are not eligible for admission to a language class or for resource allocation if they do not meet the SERC criteria and the more recent enrolment criteria circulated by DES 2007. (10,12) The criteria do not reflect the significant amount of research into the nature and management of SSLI conducted since their publication fourteen years ago.

4.3.1 SSLD Classes

Policies and procedures operating in SSLD classes need to be standardised to include such areas as:

- A. Definition of service
- B. Referral
- C. Admission and discharge procedures
- D. Inclusion
- E. Staffing.

Section 5

Recommendations

IASLT makes recommendations in a number of areas as follows:

Collaborative practice & service planning

A framework for collaboration needs to be formally established. This will aim to ensure the following:

An integrated care package

An integrated care package that involves the clients with SSLI, their families and an interdisciplinary team in providing the most appropriate pathway to allow the individual achieve to their potential academically, socially and vocationally.

That children with SSLI, their families and those involved in service provision on the ground, need to be involved at national level in strategic planning for maximum impact of the legislative changes.

Inter-disciplinary team working

The development and refinement of structures and processes, so members of the inter-disciplinary team learn and understand each others roles, undertake joint client intervention and joint research activities.

Strategic collaborative planning

Strategic collaborative planning to be pioneered by the DES, HSE and DOHC and the establishment of a national working party comprising the key stakeholders;

- To review the criteria for diagnosis of SSLI in light of current research evidence.
- To establish agreed terminology and criteria for health and educational resources.
- To address policy and service development for the SSLI client group in the republic of Ireland.

Resources

It is acknowledged that resources will be required in order to implement these recommendations. Funding will be implicated in addressing the significant service gaps identified above and is already mandated under the terms of the Education for Persons with Special Educational Needs Act (2004) and the Disability Act (2005).

Glossary

Circumlocution

The use of an unnecessarily large number of words to express an idea.

Clinical care pathway

Operational principles relating to a process of management and intervention for a particular client group.

Dysfluent

A disorder of fluency. Stammering refers to unplanned repetitions, prolongations of sounds and/or stoppages in sound during speech.

There may be associated physical movements such as blinking with speech.

Echolalia

Repeating an utterance immediately after it has occurred, without understanding and sometimes with the intonation pattern preserved. It is a common feature of early language acquisition and of autism. (54)

Phonology

The limited system of sounds used by a particular language to convey meaning. (55)

This is rule governed and developmental. The linguistic field of phonology studies the smallest units in language that signal meaning differences i.e. phonemes. (56)

Phonological awareness:

This is the ability to think about and to manipulate the sound structure of language. Together with knowledge of letter-sound correspondences, phonological awareness is a strong predictor of children's acquisition of decoding skills in reading.

Polysyllabic:

Words containing more than one syllable. For example: Television

Pragmatics:

In broad terms-language in context. Pragmatics has focused on use of language in social interaction, aspects of meaning not recoverable from the linguistic expressions (including implied and intended meaning) and connected discourse (narratives and story telling). (57)

Semantics:

Semantics deals with the referents for words and the meanings of utterances. Semantics involves the vocabulary of a language, or the lexicon.

Topic initiation:

Introducing or starting a new topic in conversation.

Topic maintenance:

Topic maintenance requires that a person about to speak abide by the constraints of the topic created by a previous speaker and reply with responses appropriate to the topic.

Verbosity:

Containing more words than necessary or given to wordiness

Word retrieval:

The ability to call up words with speed, clarity and accuracy.

LIST OF KEY ABBREVIATIONS

(in order of appearance)

IASLT	Irish Association of Speech and Language Therapists
SSLI	Specific Speech and Language Impairment
SLT	Speech and Language Therapist/Therapy
HSE	Health Service Executive
DES	Department of Education and Science
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders
ICD-10	International Classification of Diseases
SERC	Special Education Review Committee
SSLD	Specific Speech and Language Disorder
IQ	Intelligence Quotient
RCSLT	Royal College of Speech and Language Therapists
ADHD	Attention Deficit Hyperactivity Disorder
PCCC	Primary, Continuing and Community Care Directorate
DoHC	Department of Health and Children
EPSEN	Education for Persons with Special Educational Needs Act 2004
SENO	Special Education Needs Organiser
CPD	Continuing Professional Development
PCI	Parent Child Interaction
INSET	In Service Training

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Acknowledgements

This position statement on SSLI draws heavily from work completed by an IASLT working party originally convened in 2001. The working party was comprised of the following members:

Roisin Bradley
Suzanne Carolan
Trina Corry
Margaret Creevey
Niamh Gallagher
Joan Keady
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Bevin Tiernan
Eleanor White

The working party wishes to acknowledge the assistance of Maureen D'Eath and Dr Jean Saunders with statistical analysis of 2002 survey. Dr. Aidan Hickey National Institute of Health Sciences for funding support for statistical analysis. Judith Kiernan, Dr. Eugene Wall and the following individuals and teams, for comments on drafts of the earlier SLI document:

Ms Margaret Barrett on behalf of the Cavan Monaghan SLT team
Ms. Niamh Burke, Midwest HSE
Ms Christophene Carr, Mid West HSE.
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