Greek teachers' understandings of

Typical Language Development and of language difficulties

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ABSTRACT

Language is a dynamic learning mechanism for children. Oral language skills are pivotal to all children and should be practiced in schools. However, not all children develop language typically and some may experience language difficulties at differing levels and degrees of severity. As the concept of inclusion has gained currency in many countries, it is expected that larger numbers of students whose difficulties are not severe enough to be admitted to a special school, will be educated in mainstream classrooms alongside children with typical language development. Thus, teachers are increasingly faced with the challenge of teaching students with differing profiles of needs. However, research has paid little attention so far to teachers' views and to their preparedness to cope with such challenges.

This study was based on a Sequential Exploratory Mixed Methods Design deployed in three consecutive and integrative phases. The first phase (QUAL) involved 18 exploratory interviews with teachers, the second (QUAN) a questionnaire survey with 119 respondents and the third (QUAN) a formal testing procedure with 60 children attending Y1, Y2 and Y3 of primary school.

Results suggested that Greek teachers' views of the needs of *children with language difficulties* and of the nature of their difficulties reflect the 'more educational' criteria included in DSM-5. Teachers considered language as a single domain with indivisible and interrelated aspects but found difficulties distinguishing between Typical Language Development and language difficulties, especially in transition years as Y2. Teachers also viewed language difficulties as a continuum across language aspects but could not fully appreciate the nature of children's difficulties. Language teaching strategies were neither differentiated in essence nor explicitly focused on enhancing children's language learning. They also barely reflected the dynamics of the Greek language as a potential language learning and teaching mechanism. It is proposed that a more robust and optimized approach to language learning should be adopted which will primarily target the needs of *children with language difficulties* but which will also enhance *all* children's language skills at the same time.

'I, Konstantina Georgali confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.'

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To my three children,

Ellie, Mirsini and Alexander.

To always remember not to give up….

Even when they fight against all the odds…

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Introduction

Setting the research scene

This is an educational study that investigates Greek primary school teachers' understandings of Typical Language Development (henceforth, TLD) and of language difficulties and how they scaffold language learning in mainstream classrooms. It is based on the assumption that teachers need to be aware of the importance of enhancing young children's language skills and that they are called to support all children's differing language needs in an inclusive ethos. It is an original research study in the field as it is based on different contextual and methodological approaches compared to previous studies and contributes to the existing Greek and international literature with current empirical data on how language development is approached within mainstream provision. Its originality in context lies first with the fact that it goes beyond exploring teachers' understandings of language related issues to validating their views based on quantitative data. This synchronisation provides an evidence-based, up-to-date and pragmatic picture of teachers' understandings of language related issues and more importantly, it links their views with everyday practice. Second, it sees language as a dynamic and powerful teaching tool in the hands of teachers and in doing so it reflects on morphological, structural and inflectional elements of language as potential mechanisms to scaffold language learning and to promote language development for all children in class. Its originality in methodology lies with the fact that the research agenda progressively evolves, enlightens and compliments previous data with subsequent evidence resulting in a more robust and insightful attribution of current practice.

The choice for focusing on language is not a random one as language is the prime tool for thinking, learning and communicating (Mercer, 2005). In our era, society has raised the educational bar that all children must reach in order to complete school successfully and, ultimately, to survive in the economic and social world of the 21st century. Communication skills are pivotal to all children and should be practiced in specific and effective ways that take into consideration two crucial parameters; first, that all children have language learning needs that should be

addressed and second that, a significant number of young students in mainstream schools may experience oral language difficulties at differing levels and degrees of severity that equally need to be addressed in timely and effective ways. Those children form a category of children with SEN, namely *children with language difficulties* (the use of this term is explained in detail in Chapter 2).

Nowadays, teachers are increasingly faced with the challenge of teaching students with differing profiles of needs. As the concept of inclusion has gained currency in many countries, it is expected that larger numbers of students whose difficulties are not severe enough to be admitted to a special school, will be educated in mainstream classrooms. *Children with language difficulties* are one such category of students. Studies conducted so far mainly in the UK, have shown that they are primarily educated in mainstream schools with differing levels of support and also, that their numbers are continuously increasing (Dockrell et al., 2014; Dockrell and Lindsay, 2001; Dockrell et al., 2012b). As a result, mainstream teachers are expected to face challenges at many levels and in many forms in their effort to support those children's needs. However, class teachers' struggles have been overlooked and so far, 'little attention has been paid to their views about the children's problems and educational needs' (Dockrell and Lindsay, 2001, p. 369), their knowledge gaps in the field and the everyday barriers they come across in their effort to meet the special needs of their students. Research has also established that teachers are unprepared by their initial training to meet the needs of pupils with language difficulties (Dockrell and Lindsay, 2001; Lindsay et al., 2010; Lindsay and Dockrell, 2002; Markham et al., 2009; Marshall et al., 2002a; Okalidou and Kambanaros, 2001) and similarly, that although they are concerned about children's language learning and are equally aware of the importance of efficient language skills for young children, they express anxiety and lack of knowledge in their ability to support them (Locke et al., 2002). By corollary, the next question is what teachers need to know and what qualifications they need to possess so as to act in the best interest of *all* their students in an inclusive ethos. As Florian and Linklater (2010, p. 369) so amply put it, 'This sense of being unqualified or unprepared to teach *all* students in inclusive classrooms raises questions about what constitutes necessary knowledge and skills, and different views about what

classroom teachers need to know and how they might be prepared to work in inclusive classrooms'. As the inclusion agenda in Greece progresses in line with the international agenda, it is expected that in the same way, the general Greek teachers alike will increasingly face challenges in supporting the needs of students with SEN in mainstream classrooms. This thesis explores this possibility form the perspective of Greek teachers' understandings of the needs of *children with language difficulties*.

Taking into further consideration that effective oral language skills are the building blocks on which subsequent academic success is based (Dockrell et al., 2012b) and that research has shown that children who enter school with poor language skills are disadvantaged both academically and socially (Conti-Ramsden et al., 2002; Dockrell and Lindsay, 2007), then the classroom environment and interactions with teachers and peers pose a great challenge. The impact of experiencing language difficulties on the children's academic and wider school life is significant as they can be a counterproductive factor for a range of other skills and thus directly affect access to curriculum. On the other hand, classroom teachers need both to promote oral language development for all children while at the same time support the specific needs of the increasing numbers of *children with language difficulties*. Thus, elucidating teachers' understandings of TLD and of language difficulties, their awareness of the profiles of need of *children with language difficulties* and the teaching strategies they adopt to promote language development, becomes an essential step first, in enhancing all children's oracy skills and in paralleel, in meeting the specific needs of students who struggle with language, as without the right support language difficulties will persist for longer periods of time and will adversely affect academic achievement, self-esteem, social acceptance and behavioral and emotional development.

By corollary, it is essential to develop the teaching workforce towards improving their understanding of children's language development, enriching their range of tactics to support effective language development for *all* students and strengthening their competence in working with *children with language difficulties* (Law et al., 2012a). Thus, teachers' role needs to be updated and enriched to meet such

challenges. However, as Dockrell et al., (2012b, p. 23) highlight, it is important to be mindful of one critical issue; changing teacher practices related to language use is no easy task and 'it is recommended that researchers need to look more closely at interactions in classrooms' and focus on creating professional skills and curricula that optimize teachers' methods of fostering language learning. In combination with the fact that general teachers' initial training in issues around SEN is inadequate, a way forward would be to incorporate specific teaching strategies that studies have shown to be effective in promoting language development into existing curricula and train in-service teachers on how to use them to the benefit of all students. A promising perspective with regard to teachers' understandings of language that has educational implications as to how language should be taught, has been highlighted by Fillmore and Snow, (2002). In a special report on what teachers need to know about language and the linguistic input they provide to students, it is argued that teachers need a thorough understanding of '*educational linguistics*', that is, of how language figures in education and a profound realization of the 'linguistic' roles they are called to play as language and communication mediators in their classes. Thus, teachers first require a knowledge base of the stages of language growth (e.g. how the lexicon is acquired and structured, grammatical and syntactical forms that can be mastered by children according to their stage of cognitive development, competence in narrations and level of maturity in pragmatics) so as to distinguish between TLD and language difficulties. Second, they need to know the particularities of their native language and how those can be used appropriately in teaching strategies to optimize all children's language learning. In a highly structural language, like Greek, this is especially important as Greek is a language characterized by interweaving and interrelated lexical, morphological and syntactical systems which can be incorporated into language teaching methods and significantly enhance language growth and enrich students' ability to understand language.

Studies conducted so far in English speaking countries have addressed the issues of language development, language difficulties and teachers' understandings in the field. However, research conducted in Greek schools for Greek children is limited. Few studies have been conducted so far to investigate TLD in school-aged children

and the profiles of need of *children with language difficulties* within Greek mainstream schools and how language learning is approached. Studies have mainly been administered in private speech therapists' offices involving a very small number of children or in some cases just one child. Studies with children with TLD have comprised larger samples either drawn from one school or from more schools but nevertheless were restricted in scope as they usually targeted one or two language related elements usually from one particular dimension. The present study is two-dimensional as it brings together teachers and children.   To my knowledge, no Greek studies exist exploring Greek teachers' understandings of language related issues and validating those by comparing the linguistic profiles of primary school students with TLD to age equivalent peers with language difficulties. Further, no Greek studies have explored the impact of such difficulties on children's attainment and well-being. This study addresses this gap within the Greek educational system and in doing so, it opens a new window on how best to approach language teaching. The study also adds another important research element that has the potential to provide a new insight on how to scaffold language learning in all school aged children based on the particularities of language.   Neither in the English nor in the Greek literature have there been studies investigating whether teachers make use of the special features of their language in their teaching strategies to scaffold language learning and in tandem to enhance language growth. The Greek language offers teachers such opportunities and the present thesis explores this parameter at an initial level. However, although there is Greek literature investigating the nature and particularities of Greek in young children's development, the educational approach in terms of how language learning is approached in mainstream classrooms, is notably missing.   Findings presented in this study have wider educational implications in relation to the ways language teaching should be approached and optimized to the benefit of all students in the class and in relation to the development of existing teachers' workforce in the Greek and in the international context.

Overview of the study's layout

The study adopted a Sequential Exploratory Design (SED) and was conducted in three consecutive phases. The SED allows for subsequent research phases to be designed and informed based on findings of the previous research phases. This, however, entailed a particular and interrelated organization of the thesis that needs to be exemplified beforehand, as follows:

a) Throughout the study phases, research gaps emerged progressively with the analysis of results and informed the subsequent research phases and actions. Those gaps are presented in the relevant sections and are accompanied by implications for the following research steps. In some cases, methodological limitations are included in chapters other than the methodology. This was deemed necessary in order to provide a coherent line of reasoning and also to ease the reader through the progression of this study.

b) Research aims are provided in the overall methodology chapter (Chapter 4). However, due to the SED, specific research questions emerged progressively during the course of the study and are not therefore presented in the methodology chapters. Instead, in order to establish and maintain the study's line of reasoning and research flow, they are included in following chapters.

c) Results of the first phase were integrated with results of the second phase and both informed the design and scope of the third phase.

d) The three results chapters include summaries and discussions of results to an extent that was necessary to reveal contradictions and ambiguities that needed to be investigated further in the subsequent phases.

e) The final discussion chapter then draws from the summaries and discussions of the three results chapters and provides an overall synthesis of results and of research inferences.

In broad strokes, the chapters were organized as follows:

Chapter 1: Addresses TLD in the English and Greek literature; exemplifies how aspects of the language system impact on children's language learning; outlines how particularities of the Greek language may scaffold language learning in young children.

Chapter 2: Moves on to children facing language difficulties; presents current challenges in the field with regard to terminology, identification and conceptualization of language difficulties; describes the clinical profiles of *children with language difficulties*; reviews assessment and associated problems to language difficulties.

Chapter 3: Adds the educational perspective of the study by bringing to the fore teachers' role in promoting language development and in supporting the needs of *children with language difficulties*; raises the issue of inclusion; reviews current research on language teaching strategies.

Chapter 4: Outlines the conceptual methodological framework and broader design of the study; exemplifies the choice of a Mixed Methods research and of a SED; establishes reliability and validity of research instruments and the theoretical background of the thesis

Chapter 5: Describes the specifics of the three study phases in the Greek educational context; explains all data analysis procedures.

Chapter 6: Presents results of exploratory interviews, the first data collection phase; summarizes and discusses results and outlines implications for the second phase.

Chapter 7: Presents results of the questionnaire survey, the second data collection phase. Summarizes results and integrates findings of interviews to exemplify the scope and design of the following phase; outlines implications that led to the final data collection process

Chapter 8: Results of the final phase, assessment of linguistic profiles of a sample of Greek children; builds on previous findings to provide an insight on current findings; summarizes and discusses results to a certain extent.

Chapter 9: Outlines how the SED evolved throughout the study by linking steps with the results; provides a synthesis of the results of the three study phases based on the research aims and objectives; discusses limitations of the study, outlines educational implications and future considerations.

Chapter 1 Typical Language Development

1.1 Introduction

This chapter addresses TLD in preschool and school-aged children based on studies from the Greek and international literature. It moves gradually from a general picture of language development to a more detailed one with the scope to present current advances in our knowledge of TLD. It begins by reviewing widely known models of language acquisition and development and gradually moves on to addressing the role of the input in children's language growth under a social-interactionist approach. Subsequent sections present stages of TLD in a continuum from infancy to preschool and then to elementary school years followed by an account of how subcomponents of the language system evolve and how they impact on language development. The aim of the chapter is not to present language acquisition and development form a linguistic view but solely from an educational perspective that highlights language as a powerful learning mechanism that influences wider academic skills. In doing so, it also presents the interweaving and interrelated aspects of the language system in both the English and the Greek language. At the same time, the chapter also aims to document the expected knowledge of TLD that teachers need to be aware of. It should also be clarified that due to the complexity of the language system and due to its interrelated subcomponents, studies reviewed may overlap in more than one sections as their findings may be primary to one aspect of language development and peripheral to another. Finally, in a number of studies reviewed the term 'normal' was used to refer to children who develop at a typical rate. The present thesis adopts the term 'children with TLD' to refer to children who do not present difficulties neither in the acquisition of language nor in the course of language growth.

1.2 The language system

Since the present study revolves around language, it is important to provide current attributions of language. The term 'attributions' is used on purpose instead of the term 'definitions' as defining what language actually is, remains a challenging issue even though language has been studied for many decades. That is partly because the scientific field related to language acquisition and language development is a field

constantly evolving and synchronous research evidence and new advances in our understanding of language are continuously added to what is already known. Most attributions, though, include the words 'system' and 'communication', presumably reflecting what language is and what it is primarily used for. Indicatively, researchers refer to language as 'a complex system of knowledge used, among other things, for conveying ideas to others via conventionalized behaviors' (Tomblin and Zhang, 2006, p. 1193) or 'an organized system of arbitrary signals and rule-governed structures that are used as a means for communication' (Brandone et al., 2006, p. 499) while according to the latest version of the Diagnostic Statistical Manual, (DSM-5: American Psychiatric Association, 2013), language includes the form, function and use of a conventional system of symbols (i.e. spoken words, sign language, written words and pictures) in a rule-governed manner for communication. Communication, though, is a different entity from language. It includes any verbal or non-verbal behaviour (whether intentional or unintentional) that influences the behaviour, ideas or attitudes of another individual (DSM-5: American Psychiatric Association, 2013). Communication precedes language; humans can communicate from the day they are born (Dockrell and Marshall, 2014) and it is predicted that the infants' initial communication skills function as a precursor to language development (Laakso et al., 1999; Saxon, 1997; Tomasello and Farrar, 1986). However, it is difficult to draw a distinction between the emergence of language and early communication as they both share many functional characteristics that evolve, to some extent, in parallel. It is similarly difficult to draw a distinction between communication and language in general and this is also reflected on the terminological debate about children's language and/or communication needs (see Chapter 2). The present thesis focuses on educational contexts and does not distinguish between language and communication as two different entities.

Traditionally, the language system has been viewed as having many different components often arranged in an hierarchical order (Tomblin and Zhang, 2006). Drawing on linguistic concepts, one set of components are known as: *lexicon*; the words and their associated meanings, *syntax* (also referred to as *morphosyntax*); the grammatical rules of a language and how words combine into phrases and

sentences, morphology; the rules for constructing larger words out of morphemes, *phonology*; the speech sounds and the intonation that are associated with spoken language and pragmatics; the rules that govern social communication, how we adjust our speech depending on the social context we are engaging into (Dockrell and Marshall, 2015; Ministry of Education and Lifelong Learning, 2000; Nima, 2004; Stavrakaki, 2005).

However, two other broader domains in the course of language development have also been documented, namely structural language and pragmatic language (Cohen, 2010b). Structural language skills encompass phonology, vocabulary and grammar (syntax and morphology) whereas pragmatic language skills include behaviours such as conversational and communicative turn-taking and context-related discourse.Within the field of language sciences, though, there is confusion about the differentiating elements of such components and about the boundaries among them and there is no consensus as to where distinctions are drawn.

The present thesis adopts a comprehensive stance and views language as a dynamic system of interdependent and interactive processes where language structures emerge from interactions between various levels of the system (Elman, 2004), irrespective of where and how different components meet or part. By corollary, all research articles included in the present thesis, revolve around the aforementioned sets of language components and the same distinctions are adopted in this study as well. However, the present study will not explore speech problems further. That is because although the DSM-5 (DSM-5: American Psychiatric Association, 2013) (presented in detail in the following chapter) distinguishes speech from language and describes it as the expressive production of sounds which includes an individual's articulation, fluency, and voice and resonance quality and distinguishes it from language, the terms 'speech and language' and 'speech/language' are often referred to in the literature interchangeably to describe *children with language difficulties*. Similarly, there are no specified criteria to distinguish between children with speech and or language difficulties, so the terms could refer simultaneously to children with problems in either domain or in both making the distinction between the two rather ambiguous and confusing. Further, speech problems can only be

assessed with specific measurements administered by trained persons (Bishop, 2014; Bishop et al., 2016).

1.3 Models of language acquisition and development

Interest in how children acquire language goes back centuries but it was not until the late nineteenth century that language development became a systematic research field that has received considerable attention (Bornstein, 2010). However, our understanding of the language acquisition process is at present very incomplete (Huttenlocher et al., 2002) and still reflects the 'nature' versus 'nurture' controversial debate on the way generations come to acquire this ability unique to humans. This disparity has been triggered by a long-standing consideration of two poles of human development; our universal endowments and the shaping role of experience (Waxman et al., 2013). It is advocated that both biological and environmental factors play a complimentary role in acquiring language but so far, none of those ideas have gained momentum over each other and both have yet a lot to explain either from the naturalistic stance, that language evolves on its own with no external stimuli, or from the nurturing stance that children's experiences are behind language development without the contribution of some form of innately specified learning mechanism.

In broad terms, there are two main theoretical approaches to the way humans acquire language: nativism and non-nativism. The fundamental differences in these two approaches are already apparent in the terminology used by their advocates. Nativists prefer the term language acquisition which implies something like a monumental hallmark in the course of human development, a moment in time when children acquire language in the absence of experience, whereas non-nativists prefer the term development which, in turn, implies some form of a learning process based on the child's experience and his ability to construct from that experience. The complexity of the language acquisition process, however, is unlikely to be captured by a single theory of language skills but the educational focus of the thesis entails that more emphasis is placed on the shaping role of the context. Therefore, the dominant ideas about language acquisition presented in the next sections provide a basis for positioning the thesis from an educational (contextual) perspective and

hence, the nativist theory is only referred to briefly. Further, this educational perspective does not entail the documentation of complex conceptual details adjudicated to language acquisition by the various theoretical perspectives. That is because it focuses on primary school children who are past the acquisition stage and on primary school teachers' knowledge and understandings of broad, fundamental milestones of language development and language difficulties of school-aged children.

1.3.1 The nativist theory

Linguist Noam Chomsky is the person who formalised the nativist theory and his ideas have shaped several leading theories of child language acquisition (for a review see Ambridge, Pine and Lieven, 2014). Chomsky advocated that even small children can learn language spontaneously by themselves, that language is innate to humans and therefore much of the child's knowledge of grammar and understanding of linguistic structures is genetically determined. He argued that language acquisition is accomplished by a language acquisition device (LAD); an innate knowledge of 'universal grammar' (Chomsky, 1999), or of 'faculty of language' (Hauser et al., 2002) that underlies all human languages and enables children, immediately upon acquiring an adequate lexicon, to combine words into new and grammatically correct forms and in tandem to understand language as they hear it (Nima, 2004). This 'universal grammar' is believed by Chomsky and his followers to be part of our biological endowment and supports a sudden and speedy acquisition of grammar, especially during preschool years. Their main argument is that language acquisition would be too complex to succeed in cases of impoverished, under-constraining input without the aid of an innate knowledge of universal grammar. Language development is then thought to be dependent on physical maturation and unfolds in due course according to a biological timetable. However, assuming that there is an innate language learning mechanism, would make it more plausible to expect a degree of uniformity in children's language development. Instead, children's first utterances may be expressed in such grammatically variable and unpredicted ways and may vary to such an extent that it is difficult to assume that they fit into the concept of an innate knowledge of grammar. Similarly, a sudden and quick mastering of grammatical forms is only

evident during preschool years when children make extraordinary strides in language development. Other common grammar forms, such as the passive voice, are acquired later in the middle school years (Nima, 2004) and therefore cannot be attributed to a prior innate knowledge. Research evidence from studies reviewed in Section 1.5 further below also indicates differing profiles of strengths and weaknesses among children in terms of their language competence rather than uniformity. Further, not taking into consideration the shaping role of the environment in children's language learning creates an assumption that education may not have the potential to promote language development and to enhance children's language skills. In sum, as Goldberg (2016) put it, conclusive evidence of the existence of a universal grammar, involving structure or syntactic knowledge that is unique to language and not learned, is quite far from an established fact. Theories that take into account the influence of environmental stimuli on children's language development, adopt a different stance, as presented below.

1.3.2 Usage-based theory and interactionist approaches

In broad strokes, usage-based theory and interactionist approaches highlight communicative interactions between young children and adults as a route to language development. Both approaches underscore the role of input to the language growth of young children. In the following sections, fundamental principles of the two approaches are first presented and are then followed by a section that draws on research evidence for the contribution of input to language growth.

1.3.2.1 The usage-based theory

The usage-based theory for language acquisition proposed by Michael Tomasello (Tomasello, 2003) places the social act of communication at the centre of a child's understanding of language functions. Central to the usage-based theory, is the assumption that the linguistic skills that any person possesses at any given time, result from this person's accumulated experience with language across the totality of usage events in life (Tomasello, 2001). Thus, it is argued that the key to language development is the use of language and social cognition is a foundation of language learning 'as children acquire language first and foremost by understanding how others use language' (Tomasello, 2009, p. 86). Based on this

theory, every time young children want to say something, they either retrieve set expressions from their stored linguistic experience or linguistic schemas and items that they have previously mastered and synthesize them for the communicative situation at hand, a process described as 'usage-based syntactic operations' (Tomasello, 2001, p. 77). Thus, the effort of children, in this case, is to make the necessary connections between their communicative intentions and the appropriate linguistic forms to express those intentions. However, there is always the issue of the influence of children's differing profiles of strengths and weaknesses on the making of those necessary connections.

1.3.2.2 The integrationist approaches

Every educational study needs to consider two main factors; the human factor and the context. New theories of language acquisition that have been developed emphasize linkages and interactions between inner predispositions in humans and environmental stimuli. Along with biological, linguistic endowments present in humans, interactionist models of language learning stress the shaping role of social context in this process. As such, an emphasis on social interaction as a route to language growth, reflects a social-interactionist developmental perspective (Dockrell et al., 2012a) where both within-child language learning mechanisms and a rich communicative environment characterised by 'frequent, relatively well-tuned affectively positive verbal interactions' (Chapman, 2000, p. 43) function reciprocally. Thus, it is argued that a child with typical development who observes adults' communicative exchanges and engages in social interactions gradually builds up a linguistic system. Even in the case of language difficulties, those too may occur as a result of a range of within child and contextual factors and 'the nature of these factors and their interaction can vary over time, more often a combination of both' (Dockrell et al, 2014, p. 545).   If we take, then, into consideration a critical element of the social-interactionist model of language growth which is the role of the mediator, of 'the more knowledgeable partner' whose task is to fine-tune his/her verbal input to scaffold the child's communication thereby ensuring further engagement and a gradual move towards more independent levels of using and understanding language' (Dockrell et al., 2012a, p. 12), then the role of the teacher comes forth. Indeed, in educational contexts, teachers play the

role of the mediator; they help children to discover and integrate the functions and regularities of language and, by acquiring new linguistic forms, children can, in turn, show subsequent development in other domains.

Quality of input and of interactions then plays a significant role that reflects a dialoguing approach to language learning which in turn highlights teachers' role in promoting children's language development. Indicatively, in presenting a 'sociocultural' theoretical perspective of teaching, learning and cognitive development originated by the Russian psychologist Vygotsky, Mercer (2005) argues that knowledge is shared and people together construct understandings of their experiences. Education is the seen as a dialogic process, with students and teachers working within setting which reflect the values and social practices of schools as cultural institutions. A sociocultural perspective highlights the possibility that educational success and failure may be explained by the quality of educational dialogue, rather than simply in terms of the capability of individual students or the skill of their teachers' (Mercer, 2005, p. 139).

1.3.2.3 The bioecological model of development

A useful framework for considering how environmental influences affect language development can be provided by the bioecological model of development proposed by Bronfenbrenner (Brofenbrenner ,1977 as cited in Bronfenbrenner, 1994). Although, the bioecological model is not a model of language development but a model of broader social and cognitive development, it can contribute to our understanding of language growth from an interactionist perspective. That is so, because it draws attention away from the underlying cognitive processes behind human development and focuses more on the influence exerted on children from the social contexts in which they live. Such social contexts surround children both at a macro level (culture, socioeconomic status and ethnicity) and at a micro level (schools, child care settings and peers). Hoff (2006) suggests that a combination of models of child development and language development would yield a new two dimensional model in which 'the mechanisms of language acquisition reside in the head of the child while the child resides in a system of social contexts, thus raising the question of how the internal mechanism and external environment meet and

interact' (p.56). Hoff (2006) epitomises the above by underscoring that 'language use is most susceptible to environmental influence'. As such, the current thesis considers both children's profiles of language development and their teachers' contribution to scaffold language learning as two substantial parameters in conceptualizing the development of the Greek language in school-aged children. The underlying philosophy of the thesis views school as a type of social setting that is based on children's cognitive abilities to promote curricula and in which language occurs both receptively and expressively through interactions with teachers and with the surroundings and through processes like reading, listening, writing and talking. Teachers are the mediators and are called to make the most of children's cognitive skills while maximizing and enhancing contextual stimuli for the benefit of their students. Thus, the classroom environment offers an ideal setting for intervention aimed at stimulating overall language development in a meaningful and naturalistic context (Brandone et al., 2006).

1.3.3 The role of the input (Input and its contribution to language growth)

To learn language, children must hear language and experience it being used in the context of communication. Language is not taught to children explicitly and directly but instead, it is learned through communication and stimuli (Hoff, 2006; Tomasello, 2009). Input is the language that children hear from people around them, mostly their carers. However, the amount of input that the children are exposed to in school or at home, cannot suffice for children's language growth. Quality also plays an important role (Hoff and Naigles, 2002). Taking into consideration, then, the need for teachers' language awareness (*educational linguistics*) and teachers' role as mediators, it could be argued that verbal input from teachers is important. In educational settings, in particular, children can benefit from 'high-quality verbal input by adults' (Dockrell et al., 2012a, p. 7) as educators play a key role in supporting oral language development. For instance, Huttenlocher et al., (2002), investigated syntax growth in relation to input and results clearly reflected a social-interactionist model of language development where the acquisition of syntax depends on innately available structures in the child but on the other, children must also receive input in the language they are acquiring. Overall, findings indicated that level of syntactic skills varies substantially among children

and that input affects the skill level that individuals achieve. Eventhough the study focused on teachers' syntactic skills, it could be argued that those too can provide a basis for practice for children's oral language interactions. The study partly tested whether the quality of the input in an educational context, actually affects the level of child skill. To do so, researchers investigated input provided in classes from teachers, on the basis that the teacher-child relation can provide an appropriate context for exploring input effects. The authors specifically searched for correlations between the syntax-complexity of teacher speech and the growth of syntactic comprehension in students. The results revealed that 'the syntax of input providers' (p.370) in the classes they teach was a notable factor that affected the extent of children's syntactic growth. The observed correlation could not be attributed to similarities in teachers' ability levels nor to children's competence nor to adjustment of input to child ability levels as teacher speech was not significantly related to children's skill levels at the start of the school year. On the contrary, it was significantly related to growth of children's skill levels over the school year, indicating that high-quality verbal input, such as teachers' speech that is more syntactically complex, impacts on children's language growth.

1.4 Typical Language Development

1.4.1 TLD in preschool and school-aged children

 The above sections presented the role of the input in children's language development and teacher's role as mediator. In the introduction of the thesis, it was mentioned that teachers need a thorough understanding of *educational linguistics* to optimize language teaching and learning. Part of this knowledge includes how language is acquired and developed and the milestones of this process. This section presents elements of such knowledge drawing mainly from Greek and English studies with preschool and school- aged children. The choice of including studies with preschoolers was not an arbitrary one. First, primary school children's language skills cannot be seen in isolation of previous years because language is a continuum from infancy to adulthood and research has documented that early language skills are the building blocks of later language development and of academic success (Dockrell and Lindsay, 2001; Dockrell et al., 2012a;

Vogindroukas et al., 2006). Therefore, it is important to document children's profiles of strengths and weaknesses in terms of language development at school entry or in the preschool period as differing language skills also differentiate children's profiles of need and academic attainment.

A further reason is that the huge bulk of research work on language development has so far focused on infancy and early childhood years whereas significantly less attention has been paid to later language development, i.e. between 5 and 7 years of age or up to the tenth year (Clark, 1992; Karmiloff-Smith, 1996) and therefore , less studies are available internationally and in the Greek literature. Studies with preschool children can also provide insights into the underlying mechanisms of language acquisition and development that are important in understanding how language evolves in children.

It is believed that the acquisition of language is one of the most remarkable achievements of early childhood. The formative years of language development occur in infancy and in the preschool period and by age 5, children with TLD essentially master the complex system of their native language in a universally common procedure provided that learning takes place in a direct and vibrant environment (Hoff, 2009; Slobin, 1992). Within this relatively short period of time, children with typical development acquire basic phonological, lexical, morphological, syntactical and pragmatic aspects of their language without any explicit instruction from their parents or surroundings. However, children's rates of development and their language competence at any age may vary enormously, resulting in different profiles of language skills. Individual differences in the timing and rate of vocabulary growth, for instance, have been documented in various studies (Fernald and Marchman, 2012; Huttenlocher et al., 1991; Marchman and Fernald, 2008; Rowe et al., 2012). As Nima (2004) put it, 'the development of language in children is a universal phenomenon but the formation of every child's language is an individual act' (p.20). This is particularly reflected on studies that examine order of word acquisition in preschool children. Children seem to learn object words sooner than action words (e.g. verbs) as they are more concrete, highly cohesive and directly identifiable whereas verbs are conceptually more

complex and abstract because they require children to understand the interaction between objects and actions (McDonough et al., 2011); a line of process that continues in the early primary school years, albeit with more complex words. This seems to be a rather common feature across languages, reflecting similarities and common trajectories in children's language development. Indeed, there is research evidence to support such an assumption, despite the existence of nuanced differences which may be attributed to particularities of native languages. Bornstein et al., (2004), for instance, collected data on toddlers' first words in seven countries and reported that nouns predominated in early vocabularies in the initial stages of language acquisition across countries. In relation to the Greek language, the same conclusions were reached by Papaeliou and Rescorla (2011). They investigated vocabulary size and vocabulary composition of 273 Greek-speaking toddlers (aged 1:6 to 2:11 -years: months) using a Greek adaptation of Rescorla's Language Development Survey (LDS) tool and documented that common nouns tended to be predominate in early vocabularies among the fifty most frequent words used. However, there is also indication from cross-linguistic studies that the order of lexical acquisition of objects and verbs may not be universal as children with different native languages may learn different new words and in other than the basic object-verb order and in diverse syntactical structures (Waxman et al., 2013). Differences have also been documented in studies investigating children's vocabulary size in preschool years and at school entry. Differing profiles of lexical development and substantial individual differences in the rate and size of their vocabulary growth have been documented (Fernald and Marchman, 2012; Huttenlocher et al., 1991; Marchman and Fernald, 2008; Papaeliou and Rescorla, 2011; Rowe et al., 2012) with children either starting slowly and speeding up or starting quickly and continuing at a steady pace (Rowe et al., 2012). Such findings reflect potentail differing profiles of strengths and weaknesses in the language domain at school entry.

Individual differences in children's language development, though, do not mean that descriptions of normative development of children's language and of the milestones children acquire at differing ages are not known. On the contrary, in general lines, the observable phases and milestones of language development have

been documented in the international and Greek literature as 'observable facts' that are not in dispute and although individual differences do exist, 'the sequence in which various forms appear is highly predictable both within and across stages' (Johnston, 2010, p. 2).

The present thesis sees language as a dynamic learning system in itself. Core to this assumption is that knowledge on how children develop language also includes an awareness of the fact that language structures emerge from interactions between various levels of the language system already beginning in infancy (Elman, 2004).For instance, auditory perceptual skills at 6 or at twelve months of age can predict later vocabulary size and syntactic complexity at twenty-three months of age (Trehub and Henderson, 1996), the pace of vocabulary growth predicts later vocabulary skills (Rowe et al., 2012), vocabulary is, in turn, linked to cognitive development and comprehension (Huttenlocher et al., 1998); increases in vocabulary are linked to later more rapid acquisition of syntax (Bittner and Ruhlig, 2013; Goodman and Bates, 1997; Maura J.M. et al., 2007; Ramirez et al., 2014); more rapid acquisition of syntax to, later, more rapid development of discourse structures in comprehension and production (Mäkinen et al., 2014; Ralli and Sidiropoulou, 2012) and early gains or interventions are associated with later more rapid development of the later-emerging aspects of the language system (Chapman, 2000).

Considering such interrelations, though, raises the issue of whether and how language skills impact on children's school life. Research studies have provided evidence that language is a critical contributing factor for children's general academic competence (Dockrell et al., 2014; Dockrell et al., 2012b; Vogindroukas et al., 2006), for crucial domains of curricula such as literacy (Mouzaki et al., 2006; Nation et al., 2010; Song et al., 2015; Verhoeven et al., 2011) and for children's behavioural, emotional and social well being (Lindsay and Dockrell, 2012b). For literacy, in particular, Rowe, Raudenbush and Goldin-Meadow (2012) argue that children's language skills at school entry predict their later literacy skills and school success and that those who start behind, tend to stay behind. The predictive value of early language skills in later academic competence was also explored in the Greek

educational context. Vogindroukas, Selini and Protopapas (2006), assessed the expressive language skills of thirty-two children in kindergarten with a battery of tests and categorized children into two groups; those who experienced expressive language difficulties and those who did not. There was a follow-up assessment after four years when children were attending Year 3 or Year 4 of primary education. Between groups comparisons showed that the two groups differed significantly in a range of academic skills such as phonological awareness, literacy, reading comprehension and spellings and thus indicated that oral language skills are related to academic performances.

1.5 Subcomponents of the language system

The following sections provide an account of the development of separate language components in preschoolers and school-aged children based mainly on English and Greek studies. Subcomponents of the language system are described separately and refer both to language development and language use as those two aspects are interrelated (Hoff, 2009). The scope of this account is to draw on current understandings of issues around TLD and present elements of *educational linguistics* that teachers are expected to be aware of and to highlight the interrelated nature of the subcomponents of the language system. In doing so, it also brings to the surface similarities of language development between English and Greek speaking children. The choice of studies reviewed in the following sections aimed to cover the pilot study questionnaire items that later informed the main questionnaire for the present thesis. Thus, they do not constitute exhaustive accounts of the subcomponents of the language system but are rather focused on specific elements. Where possible, emphasis is given on the impact of oral language development on children's academic competence.

Before that, a brief description of the particularities of the Greek language is provided as it gives an insight of the Greek studies reviewed and reflections for the results chapters. Greek is a highly structural language with complex and interweaving morphological and inflectional systems. The Greek orthographic system is characterized by a highly transparent, shallow orthography with relatively regular and consistent grapheme-to-phoneme correspondences. However, phoneme-to-grapheme correspondences are less consistent, as some of the vowels can be spelled in several ways (e.g. the phoneme /i/ can be spelled with the single letters ι, η, υ, or with the digrams ει, οι, υι as in κεράσι = / kerasi/ = cherry, ειρήνη = /irini/ = peace, κοιλάδα = /kilada/= valley, and the phoneme /o/ with the letters o or ω as in ζω = /zo/ = I live, μόνος = /monos/ = alone (Marinis et al., 2005). Furthermore, there are additional rules that regulate the pronunciation of these inconsistencies. As a results, pronunciation in Greek is most of the times easily predicted based on the information of the word's spelling/written form and thus, Greek is easy to read but hard to spell. On the other hand, though, the Greek

language has an extended interweaving morphological system which could potentially enable experienced readers to make inferences about unknown words in text based on their knowledge of word parts (Mouzaki et al., 2006), thus relying on morphological awareness (i.e. explicit knowledge of the way in which words, are built up by combining smaller meaningful units, such as prefixes, roots and suffixes) (Carlisle, 2000).Morphological awareness has been recognized as a critical skill in language and literacy development (Carlisle, 2000; Nunes et al., 2006) and as an effective tool to enhance vocabulary (McBride-Chang et al., 2008) and spelling (Diamanti et al., 2014; Mouzaki et al., 2006; Pacton and Deacon, 2008).

A further characteristic of the Greek language is that it has a rich inflectional morphology. Inflectional morphology in Greek combines both morphological and syntactical features of a word as the added suffix is a morphological form which may alter the syntactical position of a word in a sentence. Inflectional suffixes on nouns denote gender, number and case while inflectional suffixes on verbs denote person and number (Marinis et al., 2005). Both those particularities influence spelling and semantic understanding of novel, derived and inflected words. As Penke (2012) highlights, characteristics of a language's inflectional system may determine the language acquisition process. Consequently, awareness of inflectional morphology has educational implications on how language is being taught.

Verb formation is also complicated in Greek as verb endings vary across persons and across tenses and may further require the addition of extra letters. A characteristic example is the past tense, which distinguishes between sigmatic and non-sigmatic forms. The former contains an –s affix ('sigma' in the Greek alphabet) whereas the latter are formulated without –s. Further, sigmatic forms differ from non-sigmatic ones as they follow phonologically predictable stem changes and are thus considered as regular types. By contrast, non-sigmatic forms are irregular, thus less systematic and predictable, even though there are some phonologically conditioned tendencies and patterns (Stavrakaki et al., 2012).

1.5.1 Vocabulary

An essential aspect of knowing language is knowing vocabulary, i.e. the words of that language (Elman, 2004). Receptive vocabulary refers to the words we understand through reading and listening and productive vocabulary to the words we use when writing and speaking (Graves, 2006). Words provide a link between a phonological (or orthographic) form and a referent, resulting in meaningful units that people understand and use to communicate (Nation, 2014). Vocabulary acquisition is therefore an important aspect of language development; it is 'the cornerstone of language acquisition that serves as the starting point for the development of meaning in oral language' (Ralli and Dockrell, 2005).

Vocabulary knowledge is an essential academic skill that directly affects the development of other academic skills. For instance, much of the research on vocabulary has focused on investigating the potential impact of vocabulary growth and vocabulary size on literacy and reading comprehension (Mouzaki et al., 2006; Nation et al., 2010; Tsantoula et al., 2004; Verhoeven et al., 2011; Zhang et al., 2013) and has indicated that there is a close relationship. Song et al., (2015) argue that children's oral vocabulary continues to grow rapidly in the school years and reaches a point where it overlaps with reading acquisition in primary school. They then emphasize that trying to understand the process of children's vocabulary growth after early childhood, has both theoretical and applied relevance for instructional approaches. Vocabulary size and the quality of lexical-semantic representations in Greek preschool children were investigated as predictive factors of early reading achievement in first grade by Tsantoula, Protopappas and Mouzaki (2004). The study assessed the oral language skills of 55 children attending the last month of kindergarten and then tested early reading achievement of the same children in a follow-up study in February of first grade. Results indicated that word awareness can influence literacy both directly by helping children to recognize word meaning and comprehending texts and indirectly by reinforcing their decoding skills. Biemiller (2007), also found that vocabulary size is linked to reading comprehension at a degree which is more influential than fluent word recognition skills, especially from third grade onwards when reading texts become more complicated and involve age-normal vocabulary demands. Similarly, a large scale

Greek study with 587 primary school children in Years 2 -4 which examined the predictive value of oral language development in reading comprehension, reached the same conclusions (Mouzaki et al., 2006). In particular, the children were tested on measures of phonological decoding, expressive and receptive vocabulary, reading speed, spelling and reading comprehension. The results established that vocabulary measures accounted for a significant variance in reading comprehension (12%) above and beyond the variance accounted for by reading accuracy, reading speed and non-verbal IQ. Furthermore, the predictive value of vocabulary in reading comprehension was independent of school year and decoding skills. Based on the results, the authors stress the importance of oral language development within the classroom setting at a level that surpasses word recognition and word decoding skills to a level of linguistic competence that goes beyond surface text reading. However, as the authors also pointed out, the predictive value of their model would have been stronger and more reliable had it included two more variables expected to affect reading comprehension, namely general oral comprehension ability and direct measures of attention. Beginning vocabulary was also found to predict early word decoding and reading comprehension in Dutch elementary school students (Verhoeven et al., 2011) and from second grade on, word decoding predicted later vocabulary development.

Research in non- European languages has further indicated that vocabulary knowledge in the preschool years can predict later reading skills, including character recognition, reading fluency and reading comprehension. Song et al.,(2015) conducted a longitudinal study with two hundred and sixty-four (264) native speakers examining vocabulary development from preschool to school-aged years. Children were measured on a variety of reading and language tasks for a period of 8 years between the ages 4 to 10 and were assessed for reading comprehension at 11 years. Findings showed that children, whose vocabulary growth differed at 4 years, also differed in reading competence in later years, suggesting that developmental trajectories of vocabulary impact on language-related and reading-related cognitive skills.

Research in early years has documented that vocabulary is also linked to the development of morphological and syntactical skills in children (Anglin, 1993; Goodman and Bates, 1997). Goodman and Bates (1997) argue that *grammar emerges from the lexicon*. They provided substantial evidence for a correlation between vocabulary growth and morphological development (morphology of regular and irregular past tense) across languages and across various groups of children such as typically developing, late talkers, children with brain lesions and with genetic syndromes. For the typically developing group, their analyses indicated that results were not an artifact of age as age was found to be a poor predictor of both vocabulary and grammar within this 16-30 months window. However, in connecting vocabulary with grammar development, Tomasello (2009) believes that the latter is more than the sum of its parts. He argues that children's production of meaningful phrases at first and longer sentences later cannot be achieved by an array of words placed one after the other without following any morphological and syntactical conventions. As the author puts it 'we cannot explain children's acquisition of grammatical competence by starting with individual words, learned in isolation, and then gluing them together with abstract meaningless rules, as in the very common 'words and rules' approach. In similar vein, researchers have also argued that it is problematic to distinguish between vocabulary and morphology in the early years of language development and it is best that the two are conceptualized as a unitary factor (Tomblin and Zhang, 2006). That could partly explain why in a highly structural language with complex morphology, as the Greek language, there is notable dearth of research studies exploring potential relationships between vocabulary and grammatical skills for children with TLD.

1.5.1.1 Later vocabulary development

When entering primary school, children are expected to have adequate lexicons. However, quantifying the amount of words that children learn at any stage in development is a complicated task (Bowers and Kirby, 2010) due to the varying definitions of what it means to know a word and what counts as a word or a word family (Biemiller and Slonim, 2001). The varying estimations reported in different literature sources reflect this complexity. Anglin (1993) reports a quantity of about 3,100 root words in grade 1 and 7,500 root words in grade 5 and an average

vocabulary of 11,000 words at 6 years, of 20,000 at 8 years and of 40,000 words at the age of 10 years. Other researchers refer to a vocabulary of around 9,000 root word by 6 years (Oetting and Rice, 1995) and to an overall vocabulary size of 14,000 words in the average 6-year-old child (Hoff, 2009). However, regardless of the exact quantity, it is clear that children learn a great number of words in the school years. Although, there are individual differences in the rate of lexical growth (Nima, 2004), children continue to expand their vocabularies during middle childhood by a rate of 1.6 to 2.4 root words per day (a word that does not have a prefix at the front or a suffix at the end) (Biemiller, 2007; Biemiller and Slonim, 2001).

During the early primary school years, school-aged children acquire knowledge of abstract vocabulary they hear or read in literate environments such as their classrooms or by listening to teachers or by reading subject-specific textbooks like mathematics, geography and history (Nippold, 2004). Thus, their vocabularies are no longer characterised by the highly concrete definitions of the preschool and early school years but gradually express abstract or figurative meanings (Dockrell and Messer, 2004) while they also start to use synonyms, explanations and descriptions of categorical relationships. It is then, also, that children's language moves from word meanings based mainly on personal experiences to ones that reflect more general, socially shared information (Brandone et al., 2006). The introduction of idioms and metaphors also appears at this stage signalling metalinguistic competence (Nippold, 2004), that is, the ability to conceptualize, reflect upon and to perceive language as a system.

 To continue expanding their vocabularies in elementary school years, children need to be taught vocabulary systematically. Children can learn vocabulary indirectly through reading and language-rich activities but can also benefit from direct and explicit teaching of individual words (Graves, 2006). However, knowing a word, involves more than knowing its definition; it takes a lot of encounters with the word in different topic-related texts to acquire it. It also involves an awareness of how the word relates to similar forms or to other words and concepts and of how it can be used grammatically (Fillmore and Snow, 2000). Vocabulary acquisition is

facilitated when children are actively engaged in a topic-specific task and vocabulary is amendable to direct instruction and should be targeted explicitly with teaching either through prior vocabulary activities or with target words to provide a scaffold for the children's writing endeavors Thus, if teachers incorporate the explicit teaching of novel words in their daily class work and do not depend solely on incidental word learning from a text, then it is likely this will have a significant academic benefit for *children with language difficulties.* (Dockrell et al., 2007). Biemiller (2003; 2007) also suggests that when reading texts in class, teachers introduce explicitly 8 to 10 words at all vocabulary levels to gain two or more words per session. Selected words can be taught in depth either through direct explanations or in response to questions about words. In the Greek educational context, the Ministry of Education and Lifelong Learning, (Ministry of Education and Lifelong Learning, 2000) proposes that new words need to be introduced and taught explicitly either by direct instruction- learning the meaning of new words directly from previously known related words-, contextual abstraction- using context clues to figure out the meaning of new unfamiliar words or morphological analysis- analyzing the lexical, inflectional and derivational morphemes of newly introduced words so as to infer their meanings. However, whether such practices have been transferred to classroom practice, has never been investigated. The present study provides a first evaluation of Greek teachers' approaches to vocabulary instruction within mainstream classrooms.

1.5.2 Syntax

Knowledge of grammar is another essential aspect in the course of children's language development. Grammar includes two main facets, namely syntax (also referred to as morphosyntax) and morphology. Syntax encompasses the rules and principles by which words and morphemes are combined into meaningful phrases and sentences and functions as a language regulator (Pinker and Jackendoff, 2005). Morphology includes the application of grammatical markers that denote number, tense, case, person, gender, active versus passive voice (Stavrakaki et al., 2015) and other meanings in various languages (Berk, 2009). However, there are cases where morphology and syntax are treated as one entity or cases where morphological elements -such as the passive- may be categorized as syntactical rather than

morphological structures (e.g in Nippold, 2004) as the boundaries between syntax and morphology often overlap. In the present thesis, though, they are considered as separate components due to the structural particularities and the complexities of inflectional morphology in the Greek language and because all research articles reviewed in this study distinguish between syntax and morphology. Studies and research findings presented in this section and in the following section on morphology aim to document children's expected level of syntactic competence up until the elementary school years and hence reflect what teachers are expected to be aware of. A further scope is to highlight the contributing role of the educational context on children's development of syntax.

Syntax in the form of expressive language skills reflects children's language production abilities. Hence, the analysis of children's narratives has long been a type of measurement of their syntactic proficiency (Seiger-Gardner, 2009). When telling stories, children need to use all language components to form cohesive, well-formulated and meaningful narrations. The analysis of their narratives provides information about children's grammatical and syntactic competence, about their ability to use cohesive devices to relate meanings across sentences and to organize the story content in a meaningful way (Vandewalle et al., 2012). Research has shown that by the age of six, children with TLD are able to comprehend and reproduce complete story episodes that contain sufficient numbers of main and subordinate clauses as well as grammar components per complete episode (Merritt and Liles, 1987). Later, by the age of seven, children with TLD are able to understand the relationships linking the critical parts of the stories together and therefore produce stories with multiple episodes. By the age of nine to ten, children add considerable detail to their narrations (Crais and Lorch, 1994). Such advances in syntactic skills of school-aged children highlight the contributing role of the educational context in language growth. They also reflect the necessity of practicing oral language skills in classrooms as research studies in educational settings have shown that oral language practice through narratives and the development of syntax are closely related. For instance, Mäkinen et al., (2014) conducted a large scale study with 172 Finish children, who were either attending preschool education or were in primary schools (age range 4-8 years). The study investigated potential

links of narrative skills with oral language context in the classroom by testing the development of narrative productivity, syntactic complexity, referential cohesion and event content in story narrations of the participating children. The results suggested differing developmental trends between older and younger children with the first producing longer and syntactically more complex narrations than younger ones. The finding was attributed by the researchers to the excessive use of narratives as a main source of language learning input in preschool and in early elementary school years which, in long term, may have resulted in 'the use of more sophisticated language as children encounter complex syntax and diverse vocabulary in various narrative contexts' (Mäkinen et al., 2014, p. 35). However, in a recent Greek study by Ralli and Sidiropoulou (2012), gains were documented in short term in children of the same age and thus provided evidence of syntactic development through an everyday classroom routine. The study tested the contribution of narratives to Greek speaking children (aged 4-5 years) with TLD in terms of how they responded to a targeted intervention. Fifty-six children were randomly assigned to two experimental groups (story telling by an adult reading a book and storytelling by an adult without a book) and two control groups. After each intervention session, children were asked to retell the story and their narratives were assessed according to three criteria (story structure, content's efficiency, use of direct speech). Between groups comparisons showed that both experimental groups had statistically significant performance compared to the control groups whereas the qualitative analysis of children's narrations also demonstrated elevated levels of narrative skills for the experimental groups.

Subordination (i.e. the use of relative or subordinate clauses) is another important element of young children's syntactic competence. Research so far has shown that young children have fully mastered this skill and the same is true for languages with a complex syntax, like Greek. For instance, Diessel and Tomasello (2000) suggest that even from the age of two, children with TLD are able to use simple propositional relative clauses and as they grow older, by the age of five, they begin to use relative clauses in sentences that are increasingly more complex and diverse. Huttenlocher et al., (2002), similarly attested to more complex syntactic forms such as multiclause sentences (sentences that are constructed from simple phrases via

recursive devices in which one clause is embedded in or conjoined with another) that emerge in early school years and are a critical aspect of language development. However, substantial variations in children's syntactic skills were also reported, reflecting differences in language development In relation to the Greek language, Stavrakaki (2001) found that elementary school Greek speaking children (aged 5;1-9;3) who were recruited as controls for younger children experiencing language difficulties had fully mastered the syntactic complexities of reversible relative clauses (e.g. The boy is carrying the young woman that the man is pointing to) in an acting out task with toys. Years later, Stavrakaki, Tasioudi and Guasti (2015) replicated the above study and corroborated previous results with even younger children (aged 4;6-6;5). However, they additionally explored whether children could use specific morphological cues such as case and number to aid their comprehension of subordinate clauses. Picture elicitation tasks were used to examine comprehension of relative clauses in Greek speaking children experiencing language difficulties and children with typical development. Results suggested that children with TLD comprehend subject (e.g. The boy, who, is kissing the girl, is tall) and object relative clauses (e.g. The boy, whom, the girl is kissing, is tall), and also that they can use knowledge of morphology to figure out the meaning of phrases. Variations in comprehension of subordinate clauses were also evident. Such findings reflect the interweaving nature of the Greek language and have important educational implications for scaffolding language learning as they provide evidence of how language structures can emerge from interactions between various levels of the language system (The Discussion chapter revisits this issue).Similar conclusions have been documented by Nippold (2004) who emphasizes that subordination contributes greatly to later syntactic development along with the ability to deploy these structures in flexible and constructive ways. Later on in the development, the use of more complex subordinate clauses increases markedly along with past perfect marking, modal auxiliaries and low-frequency adverbial conjunctions (Nippold, 2004).

1.5.3 Morphology

Morphology encompasses inflection, derivation and composition. Inflections are suffixes added at the end of the word to mark grammatical features such as number

and tense (in English) (Ramirez et al., 2014) and number, tense, gender and case (in Greek) Indicatively, inflections in English for example, include the genitive 's, the plural –s, the past tense -d, -ed, or –t. The derivational system comprises both prefixes, which are added before a stem (e.g., *dis-)* and suffixes, which are added to the end of a stem (e.g., *-er)* is the process through which new lexemes are created with the addition of morphemes to a root word. Compound morphology is the process by which two or more words together produce a new word (e.g., playroom, playground, playmate) (Ramirez et al., 2014).

Although language acquisition follows remarkable strides during the first few years of life, complete mastery of some common grammatical forms is not accomplished until middle childhood. For example, the ability to use passive voice gradually increases in written and spoken language throughout the school-age years. Following a series of older studies examining acquisition and use of the passive in young children, Messenger, Branigan and McLean, (2012) examined 16 six-year-old and 16 nine-years-old English-speaking children and concluded that although by six years of age children have only mastered the constituent structure of the passive but not the thematic role mapping (i.e. the argument structure of the number and type of noun phrase required syntactically by a particular verb) (Stavrakaki, 2000; 2002b), by nine years of age they have completely mastered both the syntactic and the thematic dimensions of the passive. Greek studies have shown that 4–5 year old Greek- speaking children have more difficulties in the comprehension and production of non-actional passives (e.g. with verbs such as hear and see) than actional passives (e.g. with verbs such as comb and touch). Research evidence also suggests that children are able to understand passive constructions of various forms before they are in a position to produce them. One such study compared adult students with 3 to 11 year-olds usage of passive constructions and concluded that children as young as three did appear to have knowledge of the passive but the overall frequency of passive usage increased with age (23% of the three years-olds produced correct passives, 56% of the seven years-olds and 95% of the nine years-olds) (Marchman et al., 1991).

The formation and use of past tense have been the focus of several research studies both in the English and in the Greek literature. Comparison of such studies reveals notable similarities that perhaps reflect a common cross-linguistic pattern of past tense acquisition. For instance, research studies carried out with English-speaking children with TLD have shown that verbs in the past first appear around 2 years of age and are fully mastered between the third and fourth birthday (Tomasello, 2000); similarly, studies with Greek-speaking children have also documented the same developmental patterns (Stavrakaki et al., 2012; Stavrakaki et al., 2015). Qualitative similarities are also evident. For instance, the acquisition of the English past tense is not a sudden, linear process but rather a protracted, gradual and staged process that continues through middle childhood. English-speaking children go through three stages in mastering past tense morphology: First, they use a few irregular, high-frequency past tense forms (e.g. *went, bit, broke*) sporadically but perhaps without realizing that these irregular forms stem from the present verbs go, bite and break. Second, they start to show evidence of implicit knowledge of the past tense formation as linguistic rule by adding the *–ed* suffix on regular verb stems to mark past events and actions but they do not always use it even if it is necessary. Third, children use the *–ed* suffix in both regular and irregular verbs showing generalization mistakes as they tend to apply the regular form *-ed* to new words they hear. From then on, children take several years to learn all the correct past tense forms for every irregular verb (Clark, 2009; Rumelhart and McClelland, 1986). Greek data also attest to similar developmental milestones. Stavrakaki and Clahsen, (2009) conducted a large-scale study on past tense formation with 154 Greek-speaking children with TLD (age range: 3;5 to 8;5) with the scope to compare the formation of sigmatic and non-sigmatic past tense. Results indicated that accuracy scores for non-sigmatic forms lag behind those of sigmatic forms, presumably because non-sigmatic forms are mostly irregular and hence, have to be learned on an item-by-item basis over an extended period of time. Overgeneralizations were also evident as younger children tended to add the *–s* to different kinds of novel verbs included in the experimental tests. Additional findings revealed three developmental stages of past tense acquisition, as previously mentioned for the English language as well; younger children (aged 3-to-4 years

old) showed low levels of performance for both sigmatic and non-sigmatic types, five-to-seven year old children showed higher levels of performance on sigmatic forms (regular types) but not on non-sigmatic ones (irregular types) whereas children above the age of 7 demonstrated adult-like levels of performance for both types of past tense.

Data from other countries also confirm the gradual process of past tense formation in preschool children and the overregularization errors they make. Indicatively, Monteiro-Luperi and Befi-Lopes (2014) recruited thirty Brazilian- Portuguese speaking children aged between 4 and 6 years to investigate their linguistic ability to conjugate verbs in the past tense and to gather reference data to explore the conventionality of the ability studied. Children were given a test with 30 regular and irregular verbs, all presented to them in black and white board images. [Similar images examining past tense production were included in the DVIQ test used in the present thesis]. Results confirmed the literature on the acquisition of past tense in young children; the 4 year olds had worse performances than the 5 and 6 year-olds because they were still improving their production of verb forms and hence made inflection errors. Errors with irregular types were more common than errors with regular past forms. On the contrary, the 5 and 6 years old children showed mastery of the past tense formation (Monteiro-Luperi and Befi-Lopes, 2014)

1.5.3.1 Impact of morphology on language development

Morphological awareness has a lasting impact on later language development and it can be a very useful tool for children to expand their linguistic knowledge in other domains such as the lexicon, literacy and spelling (Saxton, 2010).For instance, morphological awareness in relation to vocabulary knowledge and spelling is important both theoretically and clinically because it adds a new dimension to vocabulary development apart from the well-documented phonological skills (McBride-Chang et al., 2008; Mouzaki et al., 2006). Thus, knowledge of how compound words are created with the suffix of morphemes leads to understanding of new words or other semantic and syntactic structures. Given that different languages tap on different morphological complexities, it is important to examine

how morphological awareness relates to children's deciphering of the meaning of unknown words.

McBride-Chang et al., (2008) examined the impact of morphological awareness on vocabulary growth in three highly inflectional languages (Cantonese, Mandarin and Korean). A sample of 660 preschool children (aged 4-5 years old) were tested on their ability to manipulate familiar morphemes to produce novel compound words twice in a 12 months period. Children who had a rich lexicon, scored high in tests of morphological awareness and 4 year old children with enhanced levels of morphological awareness, had richer vocabularies by 5 years of age. Thus, results demonstrated that morphological awareness predicted unique variance in vocabulary knowledge in those three languages which share similarly rich compounding systems and relatively transparent semantic structures(McBride-Chang et al., 2008).

Mouzaki, Protopapas and Spantidakis (2006, p. 67) also documented morphological awareness as an aid to reading comprehension skills in Greek speaking children attending elementary school and concluded that in highly inflectional languages that present a quite extensive interweaving morphological system, like the Greek language, morphological awareness could potentially enable experienced readers to make inferences about unknown words encountered in text, based on their previous knowledge of word parts.

Other studies have investigated the impact of morphological awareness on spelling. In many alphabetic languages, like the Greek language, learning to spell largely depends on inflectional morphology (Diamanti et al., 2014) because orthography is governed by an extensive system of morphological word ending rules that vary according to part of speech (Papanastasiou, 2008). Greek nouns are highly inflected words with different endings in singular-plural, cases (nominative, genitive, accusative, vocative) and gender (masculine, feminine, or neuter) resulting in up to seven different forms of spellings. Verbs are the most complex part of the Greek morphological system as they are inflected for person, number, tense, voice and aspect, resulting in numerous different forms of spellings. Awareness of inflectional morphology and use of morphological spelling strategies in Greek

speaking children has been detected as early as the first school year (7 years old) (Diakogiorgi et al., 2005) whereas 10-13 years old Greek speaking children have also been found to internalize and generalize the morphological information necessary for the correct spelling of nouns, adjectives and verbs, reflecting mastering of more complex morphological rules and of their implications for spelling suffixes (Diamanti et al., 2014).

1.5.4 Pragmatics

Pragmatics refers to the communicative side of language from a scociolinguistic point of view, as our spoken language is often determined by social conventions and circumstances. Having pragmatic ability means being able to go beyond the literal meaning of what is said or written , in order to interpret the intended meanings, assumptions, purposes or goals (Cohen, 2010a). Hence, as children grow up, they must learn how to use language successfully in diverse social contexts and conversational requirements. In practical terms, pragmatics includes how to engage in meaningful conversation with others, how to take turns and maintain topic relevance and how to use gestures and tone of voice appropriately according to the linguistic context of a discourse. Children, in particular, gradually learn how to act as successful interlocutors by following socially accepted communication patterns such as age and status appropriate verbal greetings when addressing other people (Saxton, 2010). Even by the age of two, children are skilful in drawing inferences about a speaker's intentions and are able to provide content-relevant responses when discussing with their parents (Grassmann, 2014). Research in English speaking children has shown that between the ages of 3 and 6 years, children are able to create meaning on the basis of the integration of the relevant information from the available context, conceptual information, and previously acquired information, thus reflecting a developing ability to utilise the given context to make inferences (Ryder and Leinonen, 2014). Similar findings were reported by Marinis, Terzi et al., (2013), who conducted a series of experimental tasks to compare the pragmatic abilities of Greek speaking children with ASD and with TLD. Children were aged between 5 to 8 years old. Results showed that children with TLD were able to make an appropriate speech act, to report an event, to request something, to prohibit something and to ask questions in order to obtain specific information in

various task contexts. They were also able to refer to the mental state of the characters in narrative tasks and similarly to make reference to the characters of the story contrastively in order to enable the listener of the story identify the characters. Such findings reflect children's ability to take context into account when interpreting the meaning of linguistic stimuli and to make inferences from oral language; a process which is under continuing refinement throughout elementary school years and gradually allows children to discern subtle differences in language use which are determined by the social context, by the age, gender, familiarity and status differentials of their interlocutors and by discourse expectations as, for instance, in telephone conversations.

1.5.4.1 Impact of pragmatics on language development

The assumption that language structures emerge from interactions between various levels of the system (Elman, 2004), is also reflected in studies exploring pragmatic development. For instance, Goodman and Frank (2013) argue that there is a deep relation between pragmatics and word learning, that is between language users' ability to infer meanings from oral language and language learners' skill to acquire the meanings of unknown words. Current research has given weight to the social-pragmatic information in word learning and suggests that the process of vocabulary development changes from one based in perceptual salience to one embedded in social understanding (Golinkoff and Hirsh-Pasek, 2006; Hall et al., 2010). Thus, young children seem to take account of the object's perceptual and conceptual properties as well as of the social-pragmatic information provided by the labeller when assigning a meaning to a novel word (Hall et al., 2010). From an educational point of view that is of interest to the present thesis, the speaker's verbal behaviour in terms of how sentences are framed, his reliability and the particular discourse topic impact on word learning. That is, that the verbal information that is provided in an educational context (this may include language, intonation, gesture, behaviour and the issue under discussion) together with novel words play an important role in how children interpret this novel lexical item (Grassmann, 2014). In a similar vein, previous research by Tomasello (1997) emphasized that the communicative function of linguistic constructions   guide the learning process when children participate in and, in tandem, benefit from diverse discourse contexts particularly

when they bear various symbolizations, particularities and perspectives. By corollary, grammatical development may similarly be promoted through social-pragmatic interaction. As adults use complex grammatical forms -which all have communicative functions- children then 'appropriate those forms for their own use in the same way as they learn words: by means of some form of cultural or imitative behaviour' (p.72). Thus, they master linguistic forms that are either abstract, such as tense markers, or whole morphological constructions such as the passive. There is also evidence of the interface of pragmatics with early grammar development. Language organization in terms of syntactic structures used, may be connected to the communicative functions of language in diverse situations and therefore pragmatic conditions may have a facilitative or productive effect on some aspects of syntactic development Ervin-Tripp (2012). No Greek studies have explored similar issues.

1.6 Summary

The scope of this chapter was to present TLD in school-aged children. Its perspective was educational, however, and therefore the elements reviewed in all sections reflected teachers' expected level of language awareness. The chapter presented theories of language acquisition and showed that individual profiles of language development, particularities of languages, like the Greek language, verbal input and context are factors contributing to the development of children's language skills. The chapter also showed the multimodality of language by documenting the stages of language acquisition and development in children with TLD that correspond to expected levels of *educational linguistics* (Fillmore and Snow, 2002) that teachers should possess. It also provided evidence of the interweaving and interrelated components of the language system based on research evidence from English and Greek studies and thus reflected similarities in the process of language learning. The chapter further documented that the Greek language is a dynamic system of such interrelated and interweaving components that impact on the way children develop their oracy skills and later, at school, on the way language is taught. However, children's language development does not always follow a typical pattern. There are children in mainstream schools whose language skills lag

behind and teachers should also be able to acknowledge and address those students' needs. The following chapter presents issues around language difficulties in school-aged children.

Chapter 2 Language difficulties

2.1 Introduction

The scope of this chapter is to present issues around language difficulties that teachers need to be aware of. The chapter first provides an account of the clinical profiles of *children with language difficulties* based on studies from the international and the Greek literature so as to   profile those children's needs, mainly in mainstream provision. However, before that, there are a number of issues that need to be critically evaluated and clarified. Thus, the chapter progressively addresses various issues in relation to language difficulties. It starts with issues around definition of language difficulties and current terminological confusion and then moves on to identification criteria and to prevalence estimations for *children with language difficulties*. It then evaluates assessment procedures. Following, it provides an account of the clinical profiles of students with language difficulties and possible associated problems. It concludes with a section on synchronous debates in the field that are necessary in order to position the thesis in current advances and considerations.

2.2. Defining language difficulties

It was demonstrated in the previous chapter that the language system involves a number of subcomponents, each developing in the preschool years and continuing to grow in childhood. However, there are many children experiencing delays or difficulties with language acquisition and development. Those children can be distinguished into two broad categories. The first includes children with a primary language problem (i.e. primary difficulty with speech, language and communication) that is not attributable to a known aetiology such as intellectual impairment, severe or profound hearing loss or lack of linguistic opportunity (Dockrell et al., 2006) whereas the second refers to children, whose linguistic difficulties are of a known aetiology such as hearing or cognitive impairment, reduced language input or are secondary to other developmental factors such as autism, (Dockrell et al., 2012a). The focus of the present thesis is with the first

category of children with primary oral language difficulties of an unknown aetiology. As presented in the following sections, terminology for children with oral language difficulties has been a very complicated and controversial issue in the field and so far, there is no agreed-upon definition with a universal appeal. Therefore, the category of children with oral language difficulties examined in this thesis will be hereafter referred to with the umbrella term *'children with language difficulties'*.

Children with language difficulties do not form a homogeneous clinical group. They may present an array of difficulties ranging form mild to moderate which may be temporary and transient, to more severe or specific which may be long term and persistent through childhood and adolescence. In providing a descriptive illustration of the broader category of *children with language difficulties* and of the subgroups in it, Grist and Hartshorne (2014) refer to 'a Russian doll approach'. The approach sees a large group of children 'hiding' in it gradually smaller groups of different subcategories in the same way the largest Russian doll hides smaller size dolls in it that, although they may look the same, with a closer look, there are feature differences. In analogy, the largest size doll represents the whole population of *children with language difficulties* with prevalence rates having been reported to range between 40-50% of children at school entry (Law et al., 2000b; Locke et al., 2002) or to exceed 50% of the students population especially in deprived areas (Bercow, 2008). The next smaller size doll, represents *children with language difficulties* exhibiting more persistent difficulties with estimated percentages of up to 10% of the students' population (Law et al., 2000b) followed by an even smaller size doll representing a group of approximately 5-7 % of students with specific and severe language difficulties (Law J et al., 1998; Tomblin et al., 1997). Researchers describe the latter, narrower subset of *children with language difficulties,* as children with Specific Language Impairment (SLI) (Dockrell et al., 2014; Dockrell et al., 2012a). Figure 2.1 below illustrates a diagram of the groups and subgroups of *children with language difficulties* that parallels the 'Russian doll approach'.

As previously mentioned, the term *children with language difficulties* will be used as an umbrella term to cover the range of language difficulties that children and young people may experience. However, most of the research work on language

difficulties both internationally and in the Greek context has focused on children with Specific Language Impairment (also documented in the literature, both internationally and in Greece, as children with Language Impairment - LI). In order to avoid confusion with other widely used descriptive terms used in published articles and in this thesis, such as language problems, unexplained language difficulties and language impairment/impairments, to maintain continuity in terminology throughout the thesis between international and Greek studies and in acknowledging the current terminological confusion (see following section), the term *children with SLI* will be used solely when referring to this subgroup of children. It should be noted, though, that such categorisations of children are neither fixed nor universally agreed upon amongst researchers in the field and the boundaries between them are not clear and distinct. However, they are necessary as they provide a communicative base in the literature.

Note: Other terms presented in quotations (''), are extracted directly from the studies.
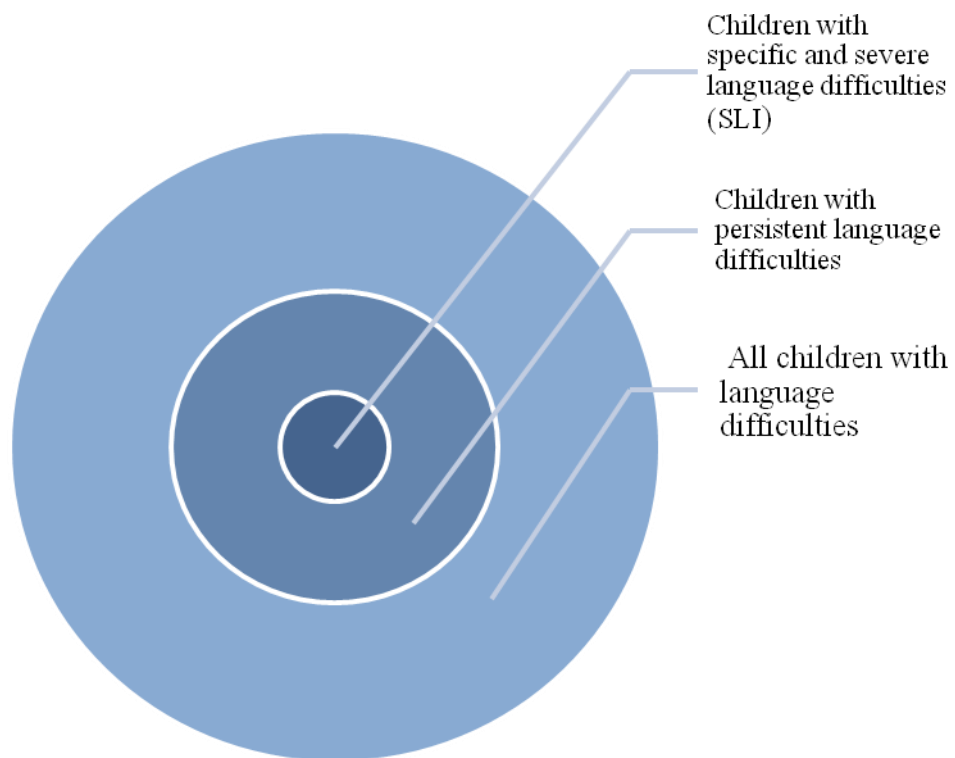
Figure 2.1 Groups and subgroups of *children with language difficulties*

2.3 Terminology

Terminology in the area of language difficulties is a source of unlimited confusion (Dockrell et al., 2012b) and researchers in the field have not yet reached a consensus as to which label could accurately describe *children with language difficulties*. There are several terms used interchangeably in studies and that has led to controversies about which diagnostic criteria can be used for identification and diagnosis. At the time of embarking on this thesis, there were two common and widespread terms used both in international and Greek literature (Avramidis and Kalyva, 2007; Kateri et al., 2005; Salonikioti, 2009; Stamouli, 2000; Stavrakaki, 2002b; Stavrakaki et al., 2015; Varlokosta, 2000b) to describe language problems in children, namely children with Speech, Language and Communication Needs (SLCN) or with Specific Language Impairment (SLI). Without being exhaustive, the list of other common terms includes 'Language Impairment' (LI), 'Language Disorders' (LD), 'Language Learning Impairments' (LLIs) and 'Primary Language Impairment' (PLI). Descriptive phrases like 'children with language problems',

'children with language deficits', 'language-impaired children' and 'children with language learning problems' have also been used interchangeably, not only in different published papers but within the same paper, thus further attesting to confusion and ambiguity. Terms have also been used comprehensively in different ways. For instance, the Bercow Review (2008) used SLCN with a broad and inclusive meaning to encompass both children with primary language difficulties and those with language difficulties associated with various other developmental factors such as children with hearing loss or cognitive impairment. On the other hand, authors of the reports for the Better Communication Research Programme (BCRP) (Dockrell et al., 2012b; Lindsay and Dockrell, 2012b), which were commissioned as the government's response to the Bercow review (Bercow, 2008), used a narrower definition of the term only to include children with primary difficulties with speech, language and communication. However, as the authors also pointed out, the term SLCN is neither used internationally in educational research, nor in clinical work or in research examining the profiles of need of *children with language difficulties*. Such contradictions and different approaches to the terminological issue leave parents, educators and other professionals in the field in confusion (Dockrell et al., 2012a).

Recently, considerable debate was triggered about the classification of children experiencing language difficulties, about the value of SLI as a diagnostic category and about an agreed upon terminology which could better describe this category and/or subcategories of children. The debate again reflects the confusion in the field, questions current diagnostic criteria and indicates lack of certainty of the classification of *children with language problems*. It was prompted by Ebbels (2014) when she noted that the newly released version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5: American Psychiatric Association, 2013) did not include the term 'SLI' in the category of Communication Disorders but had instead replaced it with the more general term 'language disorder' without specificity restrictions. The 'SLI debate' was introduced and two extended papers were published in the *International Journal of Language and Communication Disorders*; one by Bishop (2014) and one by Reilly and colleagues (Reilly et al., 2014b). Overall, both papers argue that although the term SLI has served as a

convenient label for researchers, its current classification is arbitrary and should be replaced as it cannot be clearly distinguished from non-specific language impairment based on the discrepancy criterion. Bishop (2014) argues that there is no clear indication of whether the numerous terms used refer to the same or different problems and this hinders communication between professionals and academics, prevents cumulative research and introduces ambiguity into decisions about who merits intervention. In a similar vein, Reilly et al., (2014b) argue that a change is due because the exclusion criteria for the identification of SLI are too stringent and deprive a large number of students from services and also that they lack empirical validity (Rutter, 2014).

2.4 Identification of *children with language difficulties*

2.4.1 Criteria for identifying children's language difficulties

Traditionally, approaches to identifying children whose language competence lags behind with no obvious cause, have involved three components of diagnostic criteria: evidence of significant language impairment, cognitive referencing and exclusionary criteria (Bishop, 2014).

Evidence of significant language impairment

Children's language skills have been widely assessed with the use of standardized tests yielding scores that are compared to population norms or to scores obtained from controls. However, assessing and quantifying children's language competence is neither a straightforward process nor a simple task. There are issues involved in the selection of suitable standardized language measures, in terms of which specific components of the language system should be tested (e.g. grammar, phonology or verbal memory), and critical decisions to be made on the cut-offs that should be adopted. Reilly et al., (2014), propose that language impairment should be certified when children score more than 1.25 SD below the population mean on standardized language tests. However, there is currently lack of wide spread consensus on commonly used cut-offs - traditionally, scores that are at least 1 or 1.5 SD below the population mean- on the basis that those are arbitrary criteria because studies have used different standards for recruiting samples for research and different measures

that test various components of the language system. Language tests are also considered as one-off evaluations of language difficulties and therefore may not capture important aspects of everyday communication necessary to profile children's strengths and weaknesses in more accurate ways (Bishop, 2014; Bishop et al., 2016; Norbury et al., 2016; Reilly et al., 2014a; Reilly et al., 2014b)

Teachers can also provide evidence of language impairment in children and research has started to indicate this path (Dockrell and Howell, 2015; Dockrell and Lindsay, 2014; Snowling, 2013). Research has highlighted the importance of combining teachers' perspectives with an objective assessment of individual children's needs (Dockrell and Lindsay, 2001) not only to investigate the nature and the extent of children's difficulties but also to evaluate their impact on children's academic life and school well being. Snowling (2013) argues that schools should embed teacher assessments in their policies and empower teachers to indentify children with additional learning needs early. Previous research has also indicated that teachers show strengths in acknowledging learner needs (Dockrell et al., 2012a) and there is also suggestion that teachers' knowledge and perspectives may inform the identification of inclusionary criteria of *children with language difficulties* (Dockrell and Lindsay, 2014). Bishop et al., (2016), makes a similar point by stating that *children with language difficulties* may be identified by teachers and not only by more expert staff like SLTs.

Cognitive referencing

The practice of evaluating children's language competence in relation to the level of their nonverbal ability, rather than their chronological age is referred to as 'Cognitive referencing'. Cognitive referencing has been the criterion for the identification of *children with language difficulties* for many decades (Norbury et al., 2016; Reilly et al., 2014a) and it is operationalized by requiring a discrepancy between language ability and nonverbal IQ (NVIQ) (Stark and Tallal, 1981), that is children with cognitive skills that are more developed than their language skills. Whereas the most widely used cut-off for nonverbal intelligence is an IQ of 85, studies have included various cut-offs ranging between 70 and 85 (Tomblin, Records and Zhang, 1996). The identification criteria in the International

Classification of Diseases -10 (ICD-10) (World Health Organization, 1992) define the presence of severe language difficulties when there is a score of -2SD or more in the context of average NVIQ (no more than 1SD below the mean, equivalent to standard scores above 85), thus yielding a significant discrepancy between verbal and nonverbal abilities (Norbury et al., 2016). The recent terminological debate has also questioned the use of the discrepancy criterion in the identification of language difficulties mainly on the basis that to date, there is no stark evidence to support that unexpected and unexplained language difficulties are the result of more global intellectual difficulties and there is no scientific support for incorporating measures of nonverbal intelligence in criteria for language impairment (Leonard, 2014) but, on the contrary, there is evidence that statistical cut-offs are arbitrary thresholds (Reilly, Bishop and Tomblin, 2014).

Exclusionary criteria

Exclusionary criteria that have been used for the identification of unexplained language difficulties include genetic syndromes, hearing loss, anomalies of the oral structure and oral motor function, bilingualism and autistic spectrum disorders (Bishop, 2014; Reilly et al., 2014). The main reason for the use of exclusionary criteria is to separate children whose language difficulties are secondary problems to a known aetiology (e.g. autism) from those children whose language difficulties have no obvious cause.

Social deprivation has also been indicated as an exclusionary criterion (Bishop, 2014; Reilly et al., 2014a). Locke et al., (2002) explored the link between exposure in deprived early linguistic environments and long-term effects on language development and suggested that reduced oral language skills may be the result of limited 'quantity of language addressed to children from different socio-economic backgrounds in their first two and a half years of life' (p.5). However, it is difficult to disentangle the causal paths behind such an association (Bishop, 2014) and research has indicated that high or very low levels of language skills can be found across the social spectrum (Reilly et al., 2014b).

2.4.2 An educational perspective to terminology and identification for language difficulties: the needs-based approach

The tension behind terminology for language problems is also related to the polarization of the identification criteria between two different approaches: a medical/ diagnostic approach that labels children based on specific diagnostic criteria and a normative approach that treats diagnostic labels as not being the cornerstone for identification and treatment. However, there is lack of consensus as to whether a medical model could be applied to children's language difficulties since SLI is neither a distinct medical syndrome- such as Down syndrome-, nor do all affected children share the same characteristics of the disorder.

Clinicians are more akin to diagnosis and labelling as they need to provide parents with specific answers on their child's difficulties. In relation to education, diagnoses and labelling of a condition are important to policy makers and to professionals such as educational psychologists or SLTs. Research has shown that Speech and Language Therapists (SLTs) mainly follow such diagnostic approaches by adhering to preset criteria for the classification of *children with language difficulties* with the aim to determine their suitability for provision (Dockrell et al., 2006).However, labelling, may not be similarly or at all important to primary school teachers. Strudwick and Bauer (2014) point out that if a child's needs are to be met, a label can only be a starting point. What is more important, in an educational context, is the nature of the difficulties faced by the child and the profiling of his/her needs, their impact on school life and the holistic outcome. This is because, regardless of the cause, the problems are there and need to be tackled (Lauchlan and Boyle, 2014). Seen from an educational point of view, labelling also carries potential stigmatization and the possibility of being associated with low expectations for children's abilities (Reilly et al., 2014a) while identification may, be the outcome of diagnosis based on arbitrary cut-offs for language measures and of criteria that are now questionable, such as NVIQ. In an educational context, however, identification is critical and has to be based on clear and objective criteria that are optimal for identifying *children with language difficulties* and that can serve the purpose of the diagnosis. The purpose is to identify children who will benefit from intervention by profiling their individual needs rather than categorizing them on the basis of a

formal diagnosis (Bishop et al., 2016).Previous research by Dockrell et al., (2006) has indicated that education professionals are, in fact, more inclined to 'a needs-based' approach when it comes to the labelling used for language difficulties. The study involved a questionnaire survey and subsequent interviews with SLTs in England and Wales and explored their perspectives on children with specific speech and language difficulties (SSLD). Results indicated substantial variation in the terminology used to delineate the population; although, SLI was the most common term, SSLD was the next preferred term, especially by those working in educational settings. The finding reflected, according to the authors, a shift towards a needs-based approach in educational decision-making, one that surfaces the more behaviourally based term 'difficulties' compared to the previously used term 'impairment' which has dominated the UK legislation on SEN over the last decades. The needs-based approach is now adopted by the education system and aims at identifying students' individual learning needs, at profiling their strengths and weaknesses and at suggesting specific service requirements to address those needs within the school context (Dockrell et al., 2012b).In a similar vein, Reilly et al., (2014b, p. 429) recommended the consideration of a *functional* identification of language difficulties, based on current understandings of the impact of those difficulties on children's attainment, school well-being and future perspectives. It was proposed that children should be identified as having 'language impairment' when 'their level of language abilities affects their ability to meet societal expectations in social, employment and education domains; either having concurrent effects or the potential to affect the individual in future'. Parsons, Jordan and Branagan (2014) also argued that irrespective of terminology, in educational contexts, teachers and parents are more interested in functional outcomes, i.e. on the impact of language difficulties on the child or young person's life and on how problems interfere with everyday life and academic attainment, regardless of the specificity of those difficulties. The cut-off point for 'language impairment' should be determined based on the assessment of 'individual functioning across broader quality of life, activity and participation measures as well as language, identifying the level at which language difficulties significantly impact on broader social inclusion and participation'. However, there is always the issue of how to

operationalize and measure functional impact, how low a score needs to be and in what aspect of language so as to be considered problematic (Norbury, 2014) or of which language measures are specific and sensitive enough to identify language difficulties (Dockrell and Lindsay, 2014).

2.5 Prevalence

 Prevalence rates for language difficulties are not easy to estimate. That is mainly because they are largely dependent on terminology and on the criteria for the identification of children but as previously mentioned there is confusion with terminology and uncertainty about exclusionary/inclusionary criteria (Dockrell et al., 2012a; Lindsay et al., 2008). This is reflected in the fact that even though SLI, in particular, had been researched for more than three decades, it was not until 1997 when the first large scale epidemiological study was conducted by Tomblin et al., (1997) in the USA, briefly mentioned before. This study has so far been the most widely cited epidemiological study of prevalence for SLI. It involved the screening of 7,218 six-year-old kindergarten children for language skills. Following, a cohort of 2,084 children who failed the screening and a similar number of controls were administered a diagnostic battery for SLI. Results provided an estimated overall prevalence of 7.4%, a percentage that was higher than previous estimates but fell within the range of 6% to 8% estimated for SLI by the American Psychiatric Association. However, the authors raised their concern about the representativeness of the sample children as they were recruited from one limited region in the USA, an element which reflects the difficulty in estimating prevalence range with the highest possible accuracy. More than 20 years later, Norbury et al., (2016) conducted the first UK population study of language impairment at school entry including 12,398 children (aged 4-5 years) recruited from mainstream schools. One of the study's aims was to delineate the impact of the more relaxed NVIQ criteria introduced in the DSM-5 for 'language disorder' (term used in the DSM-5) on prevalence rates. Results indicated a prevalence of 7.58% and it is noteworthy that the percentage remained similar to that in the study by Tomblin et al., even though the two studies used different measures, different samples and were conducted in different countries. The estimated prevalence percentage suggested

that approximately two out of 30 children in every Year 1 classroom will have a clinically significant 'language disorder' of currently unknown cause that adversely impacts learning (Norbury et al., 2016). Similar percentages have been reported in the UK in the Bercow Report (Bercow, 2008) commissioned by the Department for Children, Schools and Families in the UK with the scope of reviewing and evaluating services for children and young people with speech, language and communication needs (SLCN). In setting the scene of the review, the authors documented that children with significant difficulties with speech and/or language represent approximately 7% of five year olds entering school in England and children with poor language skills that are significantly lower than those of their peers represent approximately 50% of the population, especially in areas of socio-economic deprivation. However, those figures were not the result of an epidemiological study but were based on data gathered by means of a questionnaire. In sum, seen from an educational perspective, studies have established that significant numbers of students in mainstream schools may present language difficulties and are therefore in need of support.

Regarding Greek context, there have been no epidemiological studies so far about prevalence rates. When referring to prevalence rates, Greek researchers in the field always adopt Tomblin's estimation of 7.4% (indicatively, Oikonomou and Varlokosta, 2011; Ralli and Charalampaki, 2014; Stavrakaki, 2005). There is however, one reference to current rates of children with SLI in mainstream provision included in a report by the Greek Institute of Education (Ministry of Education and Lifelong Learning 2004). A total number of 417 children were recorded as having specific language difficulties- SLDs (term used in the report), corresponding to a percentage of 2.6% of the population of Greek children with special needs in primary education. The same report indicates that 8,899 children have been classified as having Specific Learning Needs, corresponding to a percentage of 52.6% of all children with special needs. Such discrepant figures, however, may provide an indication that *children with language difficulties* are perhaps classified within the broader category of children with learning difficulties. Dockrell and Lindsay (1998), have long raised this issue when they referred to *children with language difficulties* as the 'hidden population of special needs

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children' (p.118)   because their disabilities may not be obvious   but are, nevertheless, impacting on their academic performance. In tandem, insufficient priority is attached to addressing their needs (Bercow, 2008) and their problems remain undetected, misinterpreted and poorly understood by policy makers and the general public (Bishop, 2014). Issues on terminological and identification confusion exemplified in the previous section, further qualify this acknowledgement.

2.6 Assessment

The study design involved the identification and subsequent assessment of a group of *children with language difficulties*. To provide a rationale for those methodological choices, it is important to justify their distinction as identification and assessment of language difficulties are not the same processes. By contrast, they are sequential and complimentary procedures; identification, though, is a broader screening phase whereas assessment focuses on specific evaluation of children's language skills.   Thus, the purpose of identification is to distinguish between children whose language skills are below age expected levels and those who perform in the average range. The judgment is based on children's performance at the time of the identification procedure (Dockrell et al., 1997; Dockrell and Marshall, 2015). Performances are then compared with children of a similar age and therefore, expectations of typical development need to be explicit. This line of process was followed in this study. Assessment then follows identification and aims to characterize the nature and extent of the child's difficulties in terms of differing language skills (Dockrell and Marshall, 2015) with the use of multiple sources of information that are not mutually exclusive, including interview/questionnaires with parents or caregivers, direct observation of the child and standardized age-normed tests (Bishop et al., 2016) (reviewed in the following sections).

2.6.1 Standardized tests and checklists

Standardized tests are based on specific theoretical frameworks cited in the test manuals by their developers and are considered an essential diagnostic tool for practitioners and researchers (Hoffman et al., 2011). Standardized tests of oral language can either provide composite scores or single scores for separate elements

of the language system. Deciding which test or battery of tests are appropriate depends on what the test measures and on the purpose of assessment, whether it be to identify children who will benefit from intervention, to conduct epidemiological study and audit or to explore underlying neurobiological or cognitive bases of language problems (Bishop, 2014; Bishop et al., 2016). When the purpose is an initial assessment of language difficulties, as is the case with the present study, standardized tests can provide an indication of the nature and the severity of impairment and can point towards problems with specific components of language and communication –especially problems that may otherwise go undetected, such as problems with comprehension. Composite tests are also more suitable as they can provide a more comprehensive profile of a child's level of language development as they test various aspects of the language system but, in turn, this also raises the question of how to combine information from different language components, especially when there is an uneven language profile. Single language measures, on the other hand, are rather inadequate sources of information, unless combined with other forms of assessment (Dockrell and Marshall, 2015).

However, the use of standardized tests may present limitations. Assessing children's language skills is by no means a straightforward procedure that starts with selecting a measure, proceeding to administration and providing an evaluation based on children's scores. There are interacting parameters that make the process complicated and question the credibility of findings. Although there have been advances in knowledge about human development that have informed our understanding of language acquisition and of the ways in which language impacts on later development (Dockrell and Marshall, 2015), the variability and fluidity of individual differences and the complexity of the language system still make it difficult to draw clear boundaries between typical and atypical forms of language growth (Taylor, 2014) or to establish cut-offs that distinguish language impairment from the lower end of typical variation in cases where there is no known cause for language impairment (Dollaghan 2011, Leonard, 1991). This lack of knowledge is reflected upon the inconsistency in guidelines and the lack of empirical data within the test manuals to justify children's rating using norm-referenced test performance (Spaulding, Szulga and Figueroa, 2012). It is also reflected upon the different cut-

offs used in standardized measures that are arbitrary and mostly unvalidated and result in significant variation between test scores (Spaulding, Plante and Farinella, 2006). Furthermore, children who have been identified as experiencing language difficulties may score within one SD of the mean and thus may not be picked up by the tests (Spaulding 2012), indicating that measures may not be sensitive to other aspects of language difficulties, such as the functional impact on a child's language learning, possibly because children can also use nonlinguistic compensatory strategies to answer test items.

Furthermore, there is evidence that despite the fact that standardized tests provide very important normative information, relying on a single measure to evaluate a child's language skills can be unreliable and invalid and therefore standardized language tests should always be used in conjunction with other methods of assessment (Dockrell, 2001; Law et al., 2000a). There has also been previous acknowledgement of standardized tests as a single source of information not being perfectly reliable as variations in their scores may reflect random noise, that is, a particular child may have a different profile when tested in two different time periods not because of any real change in the child but because of fluctuations in test scores from extraneous reasons (Conti-Ramsden and Botting, 1999). Thus, different assessment tools can potentially pick up impairments that affect day-to-day language learning such as interviews or questionnaires/ checklists completed by a caregiver or a teacher.For instance, in a study by Conti-Ramsen and Botting (1999) where the linguistic profiles of 242 language impaired children were assessed with a battery of standardized tests, the authors proclaimed that the difficulties of these children only became evident when teacher ratings were taken into account after completing a checklist. Educational studies, therefore, that aim to investigate language difficulties in the school context, as is the present one, need to provide data on the potential associations between language difficulties and their impact on children's' attainment and school well-being. This has also been included as an important step in the processes of identification of language difficulties by the CATALISE consortium panel when stressing that '[…] an assessment of functional impact is important for supplementing language tests' Bishop et al., (2016).For instance, as will presented in Chapter 5, the present thesis

used the SDQ (Goodman, 1997) and its Impact Supplement so as to provide a more comprehensive profile of the sample children's needs and to complement the language standardized test.

2.7 Assessment of oral language in Greek studies.

Greek studies that examine oral language difficulties have mainly focused on SLI and have mostly used spontaneous language samples (Kateri, 2003; Stamouli, 2000; Stavrakaki, 1999; Stavrakaki and Tsimpli, 1999; Varlokosta, 2000a; 2002) that allow the assessment of language use *in vivo* and unlike standardized tests are not constrained by particular test items. However, standardized tests have also been used and either developed in the Greek language or adapted to Greek. Information on standardization processes is not always available with the tests. A brief commentary of the Greek tests is presented below.

The Diagnostic Verbal Intelligence Quotient (DVIQ) is a composite measure for detecting SLI in Greek speaking children. This test was used in the present study and therefore it is presented analytically in the methodology chapter (Section 5.4.1).

Parts of the CELF-PRESCHOOL test (Peers, 1999) and the PLS test (Zimmerman John L., 1979) were used in one study by Stavrakaki (2000) after being translated and adapted to Greek by diagnostic teams in two Institutes for Child Research in Athens and Thessaloniki. However, no further information concerning their standardization was provided.

Another test developed by Kambanaros (2003) is the Greek Object and Action Test (GOAT) which assesses retrieval of object and action names with the aid of 84 coloured photographs, half depicting actions (verbs) and half depicting objects (nouns). The GOAT was originally on a group of twenty Greek monolingual adult speakers and only items named with 80% or more accuracy were included in the test. For the purposes of her study Kambanaros (2009) subsequently adapted the GOAT to the Cypriot- Greek (CG) dialect by piloting it on CG –speaking adults and typically language developing children.

Vogindroukas, I., Protopapas, A. & Stavrakaki, S. (2010) have also developed the Greek version of the Action Picture Test (Renfrew, 1997).Other tests include   the

Picture Naming Test and the Auditory Comprehension Test, both developed by Vogindroukas (2009), the Phonetic and Phonological Articulation Test by the Panhellenic Association of Logopedists and the 'Athina Test' which is based on the Illinois Test of Psycholinguistic Abilities.

2.8 Specific Language Impairment (SLI)

This section provides an overview of a widely researched category in the field of language difficulties, that of SLI. The scope is to present its main features as background information is necessary to portray children's needs and to provide a knowledge base for teachers' expected knowledge in the field.

Overview

SLI is not a distinct syndrome but rather a complex disorder that is usually caused by the combined influence of many genetic and environmental risk factors. There is not a single, universally accepted definition of SLI but all references epitomise the existence of language difficulties in the absence of any other developmental impairment. Thus, so far, studies have shown that this is a group of children experiencing primary language difficulties of unknown aetiology (i.e. difficulties in children's language that do not arise from any known intellectual, neurological, sensory or emotional disability) (Bishop, 2009; Bishop, 2006; Conti-Ramsden, 2014; Dockrell and Lindsay, 2001; Dockrell et al., 2012b; Leonard, 1991; Reilly et al., 2014b). Those children's language skills lag behind that of their peers' and their problems initially affect understanding and speaking language and subsequently literacy and understanding written language. Children's language problems impact on their ability to access the curriculum (Dockrell and Lindsay, 2001) and are likely to persist throughout childhood and adolescence (Conti-Ramsden et al., 2001a; Conti-Ramsden et al., 2012; Dockrell et al., 2011).

SLI is difficult to define as it is a heterogeneous condition (Bishop, 2006; Dockrell and Lindsay, 2001) resulting in diverse clinical profiles (Stavrakaki et al., 2015) that may differ in the type of severity and that may change through childhood. The difficulty in defining SLI accurately, also stumbles upon the considerable variability and fluidity in language development in preschool years (Reilly et al., 2014b) and

the confusing boundaries between typical language development and development that lags behind.Gender is associated with SLI, with boys being more affected than girls with an approximate ratio ranging from 1.5:1 to 2.3:1 (Law et al., 2000b). Male gender, in general, is associated   with an increased risk for early language delay and later more severe language difficulties (Lindsay et al., 2007). In a large scale Norwegian study that examined risk factors for language difficulties from 3 to 5 years, it was found that male gender -along with other factors such as poor early communication skills and language/literacy familial risks- had a more severe degree of impact on persistent language delays between ages 3 and 5, than on transient language delays (Zambrana et al., 2014).

2.8.1 Growth trajectories in SLI

Since children with SLI are educated in mainstream schools, it is important to note their potential growth trajectories and to distinguish those from TLD. In an educational setting, it is also important to note the differences and similarities between children with typical language development and children experiencing language problems because teachers are called to educate all children in class while at the same time taking into consideration individual needs. One of the main differences is that SLI is characterized by variability in growth trajectories whereas growth in typical language development is, in general, characterized by a more linear function in time (Law et al., 2008). Thus, research suggests that growth trajectories in SLI change over time and can shift to such an extent that the same children may appear to have TLD at one age and atypical at another (Nelson, 2016; Reilly et al., 2014b). Dockrell et al., (2014), for instance, reported of cases where initial needs thought to be associated with speech and language difficulties, were later related to moderate learning difficulties. However, the particular qualitative differences in aspects of the language system between SLI and TLD have not yet been identified, even though SLI has been studied as a clinical category for more than three decades. It is partly this lack of evidence for clear boundaries between the two types of development that has prompted debates about whether some children actually learn language differently or are simply at the lower end of a normal continuum of language development. In the SLI debate, the longstanding question is whether affected children form a distinct group with language skills that

are qualitatively and nonarbitrarily different from those of typically developing children or whether they simply fall into the lower end of a continuous distribution with language skills that fell below some rather arbitrary cut-off but are not otherwise unique (Dollaghan, 2011; Leonard, 1991). If this is the case, then such assumption has important educational implications in relation to the ways language teaching is approached and to the ways the needs of *children with language difficulties* are met in mainstream provision. There is indeed research to suggest that language growth in children with SLI is, at least in the school years, quite similar to that of typically developing children. Zhang and Tomblin (2004) , for instance, found little heterogeneity in the growth characteristics of children when they examined a large number of students with considerably different language abilities at school entry. The same authors have also documented that the pattern of slowing trajectory may be characteristic of all children and not just those with language difficulties (Tomblin and Zhang, 2006). Conti-Ramsden et al., (2012), examined the longitudinal trajectories of verbal skills in 242 individuals with a history of SLI and found stable patterns of growth for expressive language skills but variability in receptive skills with a trend for acceleration from 7 to 8 years of age but this accelerated development was not maintained after 8 years. Variability in receptive language abilities meant that they were at a similar level or better than expressive language but it was unusual for expressive language abilities to be significantly better than receptive language skills. Similarly, Law, Tomblin and Zhang (2008) indicated that *children with SLI* may appear to have more stable growth of expressive and receptive language skills and their language development may be similar to a degree to that of children with TLD from about 6 years of age up until the following school years. They conducted a secondary data analysis of a relatively large cohort of children (n=184) identified as having 'primary language development' by assessing their receptive language skills at three time points (7, 8 and 11 years) with the use of a single language measure across time and in general, concluded that children's growth trajectories are slow at the onset but progress similarly to typical language development in time. That does not mean, however, that they could be classified as typically developing learners because they had previously received specialist educational provision. In all, there may be notable

variations in development as some individual children may appear to catch up and others to lag behind, but the overall pattern appears to be one of consistency or as the authors simply put it, 'children do not get better or worse but tend to stay on the same trajectory' (Law et al., 2008, p. 746). Such findings attest to the differing profiles of needs of children with SLI but also provide an indication that all children have language learning needs (Dockrell et al., 2012b) albeit at differing levels and to different degrees. Reilly et al., (2014b) suggested that candidate behavioural markers which were traditionally associated with SLI (e.g. difficulties in non-word repetition, sentence repetition and finite verb morphology) be seen not as definitive elements for the diagnosis of SLI but rather as indicative of poor language in general, thus indicating that children who may not match strict diagnostic criteria, may still be identified as experiencing language problems. Educational implications of those studies are discussed in the final chapter.

2.9 Clinical profiles of *children with SLI*

Children with SLI may present different sets of clinical characteristics in varying domains of the language system. The following sections present an overview of common clinical characteristics in English and Greek speaking *children with SLI*. The scope is to provide an indication that *children with SLI* may share common difficulties with aspects of the language system, thus providing a basis for the generalization of the study's findings on teaching approaches and on their profiles of need.

2.9.1 Vocabulary

Nation (2014), documents that vocabulary problems in *children with SLI* are common but not universal, thus mirroring the heterogeneity of the disorder and children's differing profiles of need. Experimental studies have shown vocabulary delays in *children with SLI* and have documented <u>fewer gains in novel word acquisition</u> compared with same age peers (Oetting and Rice, 1995; Rice and Buhr, 1992; Rice et al., 2010). Delays in word learning and knowledge are evident from early in the development of children who are referred to, as 'late talkers' (McGregor et al., 2013; Nation, 2014) and there is also evidence that problems with vocabulary persist till later in childhood (Nash and Donaldson, 2005) and adolescence (Conti-

Ramsden et al., 2012) . This was also confirmed in a recent longitudinal study by Rice and Hoffman (2015) which investigated vocabulary growth in 519 participants (240 with SLI; 279 typically developing) aged from 2;6 (years; months) to twenty-one years. Results showed that *children with SLI* had <u>lower levels of receptive</u> vocabulary growth throughout the age range assessed and they did not close the gap with age peers. Quality of word knowledge is also a problematic area as shown recently by McGregor et al., (2013) in a longitudinal study where the vocabulary size of 177 *children with SLI* between the 2nd and 10th grade was charted by utilizing a definition task. The scope of the study was to examine not only the vocabulary size of *children with SLI* but also the quality of their word knowledge, i.e. the quality of the definitions they produced. Results indicated that *children with SLI* had poor word learning both in terms of breadth (how many words they know) and of depth (how well they know the words). Children showed limitations in vocabulary breadth in all grades and were able to define fewer words compared to typically developing peers (n=324). The extent of their problems remained stable over the years, indicating that difficulties with vocabulary in 2nd grade persist over the school years. Previously, Marinellie and Johnson (2002) had also compared the definitional skills of a group of elementary school *children with SLI* with controls and showed that the groups had significant score differences both in content and in form on a task of defining ten common high frequency nouns. Children in the control group were also capable of creating formal definitions (i.e. definitions that include a superordinate along with other information) more often than *children with SLI*, indicating qualitative differences of word knowledge between the two groups.

In relation to Greek speaking *children with SLI*, research on their lexical abilities has been very limited. However, studies conducted so far have yielded similarities with studies in the English literature, providing an indication that *children with SLI* share some common clinical characteristics. Overall, Greek studies have indicated that children's performances in vocabulary are rather delayed and not atypical. Such an assumption supports previously mentioned research findings by Law, Tomblin and Zhang, (2008) about performances in language skills of *children with SLI* resembling to a degree performances of children with typical language development from about 6 years up until the early school years. It also brings to the surface the

longstanding question of whether SLI forms a distinct disorder or just represents the lower end in the continuum of children's language growth. Stavrakaki (1999, 2000) explored production and comprehension abilities in the verb lexicon of four Greek *children with SLI* (and equal controls matched for chronological age) through the use of picture description and picture pointing tasks. Results indicated problems with production but none with the comprehension of the verbs, attributed, perhaps, to word retrieval difficulties and not to atypical patterns of development. Quality differences were also documented. For example, overgeneralizations in the use of light verbs like *'kano'* (to do/to make)*, 'paw'* (to go) and *'eimai'* (to be) were evident in their performances but were also evident in the control children. However, *children with SLI* had a particularly limited verb inventory and tended to rely more heavily on a smaller set of light verbs and resorted more than often to the use of non-adult forms of such verbs, e.g. they overused those verbs in expressions and phrases that although they were syntactically correct the meaning attributed to the verbs was not the proper one. For instance 'I *will <u>do</u> a photo'* instead of *'I will <u>take</u> a photo'*.

2.9.2 Syntax

Children with SLI face problems with the comprehension and production of syntactic forms. Studies on the syntactic abilities of Greek *children with SLI* show that syntax is an impaired area, particularly in complex syntactic operations. As a result, there is a substantial amount of research in this domain. Again, there are similar features between English and Greek speaking *children with SLI*, but for the latter problems are more complicated due to the complex syntax of the Greek language. For instance, The Greek language has a very extensive and complicated use of different types of pronouns (clitics vs. strong pronouns) in structures that vary in their syntactic complexity. Varlokosta (2000a; 2002) investigated their use in children with typical language development and *children with SLI* and indicated substantial differences. Controls performed constantly at ceiling on all structures while *children with SLI* showed heterogeneous performances varying between ceiling - the same with controls - and severe impairment in the comprehension of clitics.

Common syntactic errors reported in English studies include the production and comprehension of active (van der Lely and Harris, 1990) and passive sentences as well as of wh-questions (Ebbels, 2007; Norbury et al., 2001; Van der Lely and Battell, 2003; van der Lely, 1996) and verb argument structure (Thordardottir and Weismer, 2002). Ebbels (2007) documented difficulties in understanding structures involving wh-movement in various syntactic forms such as comparative questions (e.g. 'what is smaller than the dog? or 'what is the dog smaller than?) and concluded that 'the structure of the question may affect whether the children can answer it correctly or not, regardless of their understanding of the concept of comparison' (p. 80). This is particularly reflected upon children's understandings of mathemetical concepts where comparative questions are raised almost on a daily basis and *students with SLI* may struggle, not due to the context of what is being asked per se but due to an inability to elaborate a given syntactic form. As such, numeracy is considered a vulnerable domain for *children with SLI* and studies have shown large and significant associations between problems with mathematics and receptive language difficulties (Cowan et al., 2008; Donlan C et al., 2007). In languages with more complex syntax, like the Greek language, problems may even more apparent, providing an indication of the impact of language difficulties on the children's academic performance. Recently, for instance, Ralli and Charalampaki (2014), investigated potential associations between syntactic abilities in SLI and numeracy skills in thirty Greek-speaking children attending elementary school and an equal number of control children with typical language development. Children's NVIQ and language skills were first assessed, followed by tests examining mathematical ability in terms of procedural and conceptual knowledge. Results clearly indicated that Greek speaking *children with SLI* had significantly lower performances in arithmetical operations, in number comparisons and in understanding problems compared to the control group. Significant statistical associations were detected between sentence structure and comparing numbers, between semantics and understanding of mathematical concepts and between sentence formation and replying to arithmetic problems, thus indicating that language difficulties impact on numeracy as well.

Morphosyntactical particularities of the Greek language have led researches to examine potential connections between children's use of syntax and language comprehension. Overall, although results did indicate difficulties for *children with SLI*, they were not catholically discouraging. For instance, Stavrakaki (2001) examined eight Greek *children with SLI* and indicated that morphosyntactical skills impede syntactic processing demands in reversible relative clauses. Recently, Stavrakaki, Tasioudi and Guasti (2015), investigated the use of morphological cues (case and number marking) in the comprehension of syntactical forms (relative clauses) in eighteen Greek-speaking children with SLI (aged 5;6 to 8;1). All children were recruited from private centres for *children with language difficulties* and were receiving speech and language therapy at the time of the testing. Thirty-six controls (aged 4;6- 6;5), matched for language ability with the SLI group, were also recruited from kindergarten schools from the same area as the private centres. Prior to testing, children were assessed for NVIQ and with subcomponents of the DVIQ (Stavrakaki and Tsimpli, 2000) for verbal abilities. Following, two experimental tasks (number and case manipulation) were conducted. Results corroborated the previous study but also added a new element. *Children with SLI* experienced problems mainly with object relatives than with subject relatives as they had difficulties integrating morphological case information while processing complex syntactical structures. This finding, however, showed that *children with SLI* followed the typical pattern of development, in that subject relative clauses are better understood than object relative clauses in young children. Further, individual scores showed that just one *child with SLI* scored 1.5 SD below the typical mean and thus, there was no strong evidence of pathological performance for the majority of children. Medium effect sizes for the between group differences also indicated that the SLI group was not severely impaired compared to language age matched controls, despite group differences.

2.9.3 Morphology

Several studies in the English literature have investigated morphology and have shown that it is an area particularly difficult for *children with SLI* (Leonard, 2015). However, there is a mixed picture of strengths and weaknesses. Early morphological difficulties such as tense agreement in verb morphology and noun

morphology (Conti-Ramsden and Hesketh, 2003), third person singular –s, regular and irregular past tense morphology, auxiliaries be and do (Rice et al., 2004) have been documented as 'risk markers' for SLI (i.e. symptom of the condition that in combination with other information points to increased risk). Particularly vulnerable aspects of grammatical morphology may include verb morphology (van der Lely and Ullman, 2001), noun morphology (Windsor et al., 2000), noun compound formation (van der Lely and Christian, 2000), verb argument structure (Ebbels et al., 2007). For verb morphology , in particular, tense represents a major obstacle for *children with SLI* with the main symptom being a protracted period of inconsistent use of inflections and function words in present and past tenses (Leonard, 2015). van der Lely and Ullman (2001), examined whether or not inflectional verb morphology is qualitatively different in school aged *children with SLI* compared to children with typical language development. Twelve *children with SLI* (aged 9 to 12 years old) and morphological- and vocabulary-matched younger control children (aged 5 to 9 years old) were tested on regular and irregular past tense production of various verbs. The results indicated that the production of regular past forms was significantly lower for the experimental group whereas competence in irregular past tense formations was similar to morphological controls but nevertheless lower than vocabulary controls, indicating that children faced more problems with the formation of new words than with the retrieval of word sets. By contrast, Stavrakaki et al., (2012), examined past tense formation in eighteen Greek-speaking *children with SLI* and found that they were more accurate in producing regular types (sigmatic, in Greek) than irregular ones (non-sigmatic), thus indicating that, unlike to what has been documented for English SLI, tense is not similarly problematic in Greek-speaking *children with SLI*.

As expected due to the morphological complexity of the Greek language, there has been a substantial amount of research on various issues related to problems with morphology in Greek *children with SLI*. More focus, though, on preschool children and children in the early school years and less on older school-aged children. Studies have revealed multiple delays in grammar, but also particular areas of strength, e.g. selective problems with subject-verb agreement but not tense marking. Complex morphological areas of the Greek language like the indefinite article,

strong personal pronouns, object clitics and tense marking and agreement have widely been attested to in the Greek SLI literature as posing extra challenges to *children with SLI*. Dalakakis (1994) was the first to explore morphology in Greek *children with SLI*. The tasks used in her study examined inflectional and derivational morphology and *children with SLI* showed that such particularities of the Greek language pose notable challenges to children, as children performed 'below chance' on all tasks. Following, two other studies investigated the ability of Greek *children with SLI* to produce real and novel words such as plurals , compounds and diminutives in an attempt to test even further the morphological competence of Greek SLI children (Dalalakis, 1996; 1997b). It was concluded that Greek *children with SLI* did not use the same word formation strategies as children with typical language development when producing real and novel words. For example, they disregarded noun gender constraints and chose the most frequent plural allomorph (which is *–es* for the Greek language) to form plurals for all three genders in Greek; masculine, feminine and neuter. Similarly, they presented errors of root boundary in compound formation tasks, difficulties in forming correct diminutives of nouns and in discerning root and stem boundaries in complex but nevertheless quite common words (e.g. pontantropos instead of pontikanthropos 'mouse-man'). Such mistakes were rare for controls, though, indicating that Greek *children with SLI* lack the sub-lexical features that encode the inflectional information and consequently, they cannot construct the rules that operate on these features (Stavrakaki, 2005).

2.9.4 Pragmatics

PLI is diagnosed when children have disproportionate difficulty in the pragmatic aspect of language (i.e. appropriate use of language in a given context) compared to their grammatical and phonological skills. Research on pragmatics is still in its infancy and there is yet inadequate knowledge of pragmatic language skills and difficulties, of how to assess them and to intervene (Bishop et al., 2016). However, studies that have been conducted so far, have documented that difficulties in pragmatics start to become evident in the early school years as the disparity between structural and social language becomes clear (Adams, 2001). Pragmatic features include verbosity, constant change of topic, inability to adjust to listener's

prior knowledge and limited application of inference in naturalistic interactions, difficulties in understanding implied meaning because of an over-literal interpretation of language (Adams, 2001; Adams and Lloyd, 2007; Spanoudis et al., 2007). Norbury and Bishop (2003), for instance, documented difficulties in answering inferential questions on text-connecting and gap-filling in a story comprehension task by children with PLI.

Children with SLI may present Pragmatic Language Impairment (PLI) (Conti-Ramsden and Botting, 1999). There is increasing evidence that the two conditions overlap (Dockrell et al., 2012a) and that PLI represents the point where SLI and autism meet (Bishop and Leonard, 2000). Features of PLI which overlap with characteristics of SLI include semantic errors, word finding difficulties and persistent difficulty with receptive language, language comprehension problems and impaired vocabulary development (Adams et al., 2012). However, the boundaries between the two disorders are not clear and it has not been clarified yet whether PLI is a universal feature of SLI or evident in a subgroup of *children with SLI*.

However, findings from a Greek study provide evidence for a distinct subgroup within the SLI category. Spanoudis, Natsopoulos and Panayiotou, (2007) compared performances in children's ability to produce and comprehend pragmatic inferences about given or presupposed knowledge in mental state verbs and to explore the general hypothesis that children with pragmatic difficulties do not present structural language difficulties, thus presenting profiles similar to children with high-functioning autism. The study involved three groups of elementary school children (from grades 3 to 6, aged 9-12 years old); 18 children with PLI, 28 with SLD (Specific Language Difficulties) and 40 children with typical language development. Children were tested with inferential and non-inferential mental verb, speech and syntax tasks and with the Children's Communication Checklist (CCC) (Bishop, 1998), adapted in Greek by the researchers in the study. Results yielded a clear picture and indicated that the two experimental groups performed lower on all mental verb measures compared to children with typical language development. However, children's performances in the two experimental groups were only significantly different in composite test scores and not in individual test

performance, reflecting perhaps the heterogeneity in the profiles of need of *children with language difficulties* and also indicating that overall performances may mask individual variations in children's strengths and weaknesses (Dockrell et al., 2012a). Further, this is the only Greek study exploring pragmatic skills and hence results can only be interpreted cautiously.

2.10 Associated problems in *children with language difficulties*

Profiling the needs of *children with language difficulties* entails documenting the impact of their difficulties in their wider academic attainment as they may also present weaknesses in areas other than language. According to the DSM (DSM-5: American Psychiatric Association, 2013) 'language disorder' is associated with other neurodevelopmental disorders such as specific learning disorder (affecting literacy and numeracy), social (pragmatic) communication disorder, ADHD and ASD. Dockrell and Lindsay (2000), for instance, captured impact on academic attainment when they investigated 133 *children with language difficulties* (reported as specific speech and language difficulties in the study) and found that almost half (48.9%) had handwriting problems, three-quarters had difficulty with constructing written representations of language, high proportion of reading problems (82.7%) and spelling (86.5%) and maths (61.7%). The following sections present detailed accounts of such areas of associated difficulties. However, it should be noted that associated difficulties are common in *children with SLI* but not universal, reflecting the heterogeneity of the disorder and the children's differing profiles of need. The search in the Greek literature yielded no studies examining associated difficulties of *children with SLI*. Reference is only made in textbooks (e.g. in Oikonomou and Varlokosta, 2011).

2.10.1 Literacy

Of particular concern has been the impact of language difficulties on literacy skills (Dockrell and Howell, 2015) as oral language development is central to a child's ability to access the curriculum and to develop literacy skills. Oral language skills at school entry, are related to the development of early reading competence (Muter et al., 2004) and lexical growth in the primary grades is strongly associated with later reading comprehension (Verhoeven, van Leeuwe and Vermeer, 2011). On the other

hand, over a period of more than 20 years, research has long established that *children with language difficulties* are at an increased risk of reading failure (Bishop and Adams, 1990; Catts et al., 2008; Catts et al., 2002; Catts et al., 1999; Conti-Ramsden et al., 2001a; Fraser et al., 2010; Tomblin et al., 2000) and are also more likely to fail to attain a basic grasp of literacy in adulthood (Parsons et al., 2011).

However, the nature of the relationship between reading and language difficulties is still under investigation and researchers continue to examine new insights. Nelson (2016), for instance, questions the distinction between language and literacy and, argues that 'disorders affecting oral language and literacy development […] should be assessed together and treated as integrated, intertwined abilities' (p. 229) and that failure to acknowledge overlap between language disorders and reading difficulties leads to an artificial sense of distinction between them. Snowling and Hulme (2011, 2012) also see a simple conceptualization of reading as a mapping process between oral language and written language and argue that reading difficulties can be traced back to oral language weaknesses. They examined evidence-based interventions for reading and language difficulties and used the term 'poor comprehenders' to describe a category of children whose reading decoding skills are intact but who do not seem to understand the meaning of what they read. Results revealed that reading failure may be traced to oral language weaknesses, particularly semantic and grammatical skills. It was suggested that poor reading comprehension skills may mask vocabulary difficulties and oral language processing difficulties, as for example with grammar and sentence structure. They may also be the result of a range of difficulties with aspects of text processing, such as 'difficulty in making inferences that link sentences and make texts coherent and difficulty in monitoring the sense of what they are reading and in using metacognitive strategies such as looking back on the text to resolve ambiguity' (Snowling and Hulme, 2012, p. 30). In line with this view, it is suggested that an effective intervention for poor comprehenders needs to incorporate training in vocabulary, figurative language and oral narrative skills.

2.10.2 Writing skills

Even though problems with the processing of oral language such as limited vocabulary and problems with morphology and syntax would suggest that there would probably be limitations in the production of written text as well, few studies have investigated the writing skills of *children with language difficulties* (Dockrell et al., 2007; Mackie and Dockrell, 2004). For instance, limitations in vocabulary that are common in *children with SLI*, are likely to influence the amount of written words and the content of the generated text. Similarly, problems with morphology and syntax may hinder the use of grammatical forms in written work (Leonard et al., 1997; van der Lely and Christian, 2000). However, as with literacy above, the exact nature of the relationship between oral language and writing skills is not entirely clear. For instance, two similar studies have yielded mixed results. In the first study , Mackie and Dockrell (2004), recruited a sample of eleven children with SLI (mean age=11 years) and two equal comparison groups of CA (chronologically aged) and LA (language aged) matched typically developing peers and investigated both the nature and extent of the children's difficulties with writing as well as the relationship between oral language, reading and writing. Children were assessed with a battery of standardized measures for language production, writing and reading decoding but no statistically significant associations were found regarding possible relationships between oral language, reading and writing. This was a rather unexpected finding eventhough, according to the authors, could be attributed to limitations of the measures used or to the small sample size. A second study conducted by Dockrell et al., (2007) examined the same parameters but with a proportionally larger sample of children with SLI (n=64). Results confirmed the close relationship of oral language, reading and writing and indicated that language development, in terms of lexical knowledge and reading ability were substantial and significant predictors of the children's writing scores.

2.10.3 Behavioural, emotional and social difficulties

Behavioural, Emotional and Social Difficulties (BESD) is a generic term used within the educational system to characterize the behavioural, emotional and social profiles of children (Lindsay and Dockrell, 2012b; Lindsay et al., 2007; Yew and O'Kearney, 2013). There are, nevertheless, diverse types of domains within this

generic term that need to be distinguished, not only for research purposes but also because they differentiate the profiles of needs of children. Behavioural difficulties refer to behaviours that are externalized, such as hyperactivity, attention difficulties (including Attention Deficit and Hyperactivity Disorder – ADHD) and conduct problems, such as aggression. Emotional difficulties refer to internalizing problems whereas peer problems reflect social interaction difficulties. As will be presented below, research investigating the behavioural, emotional and social profiles of children has mainly focused on within-child factors that are known to affect behaviour, such as language skills, cognitive ability, academic attainment (i.e literacy, spelling) but there are also references to contextual factors. Most of the studies presented below have used the Strengths and Difficulties Questionnaire (SDQ) to rate children's BESD.

It is now well established by research evidence that *children with language difficulties* are more likely to develop behavioural, emotional and social difficulties (BESD) than children with typical language development (Charman et al., 2015; Lindsay and Dockrell, 2012a; Lindsay and Dockrell, 2012b; Lindsay et al., 2007; Tomblin et al., 2000). Prevalence rates have been reported as high as 35-50% (Lindsay et al., 2007; St Clair et al., 2011) whereas in a meta-analyses of prospective studies examining BESD in *children with language difficulties*, Yew and O'Kearney (2013) report on research that has yielded strong evidence of co-morbidity percentages of 50-80% between children identified with either language difficulties or BESD. However, the relationship between language difficulties and BESD is rather complicated. Yew and O'Kearney (2013) also pointed out that cross-sectional data do not always provide evidence of the development of BESD in *children with language difficulties*, indicating that the relationship between language difficulties and BESD is neither linear nor two-tailed. Lindsay and Dockrell (2012b, p. 9) further characterize the relationship as 'complex', considering the variability and heterogeneity of language difficulties, other factors that may interact or impact on children's profile of needs (i.e. academic competence, societal indices, self-concept) and the different types of behavioural, emotional and social difficulties.

2.11 Associations between BESD and aspects of the language system

The studies presented above, indicate a complex pattern of associations between BESD and language difficulties. In investigating this relationship, therefore, it is important to search beyond a general psychiatric assessment and to explore the different types of behavioural, emotional and social difficulties (Charman et al., 2015; Lindsay and Dockrell, 2012a; Lindsay and Dockrell, 2012b; Lindsay et al., 2007). This is particularly significant when using tests that comprise different components that may yield different and/or opposing scores which are then summed up in total scores that mask individual variations. This does not discredit the tests as total scores provide essential information but in an educational context, where *children with language difficulties* face daily challenges, it is vital that their individual needs and sources of anxiety or distress are being acknowledged so as appropriate support is provided. Equally significant is to investigate the possibility that different aspects of language may be related to different aspects of functioning in the behavioural, emotional and social domains and thus predict the development of BESD in children (Lindsay and Dockrell, 2012b; Lindsay et al., 2007; St Clair et al., 2011). There are relatively few studies in this area, however, and evidence is sparse. Yet, it is indicative of the existence of a complex set of interrelationships between language domains and specific aspects of behavioural, emotional and social development. For instance, Lindsay and Dockrell (2000) found negative associations between difficulties in understanding grammar and ability to narrate a story with the presence of BESD in 8 year-olds whereas no discernable relationship between structural language abilities and behavioural outcomes in childhood were found apart from prosocial behaviour being related to receptive language in a study by Hart et al., (2004). Snowling et al., (2006), also reported that social problems were associated with expressive and receptive language difficulty and hyperactivity/attentional problems were related with expressive language difficulties. Additionally, Lindsay, Dockrell and Strand (2007) provided evidence of pragmatic difficulties being linked with BESD though the use of an overall measure of BESD in that study means that the relationship to specific areas of functioning remains to be investigated.

2.12 Current advances and understandings of issues related to language difficulties

The current classification systems of disorders, ICD-10 (World Health Organization, 1992) and DSM-5 (DSM-5: American Psychiatric Association, 2013), use the term 'disorder' for conditions with no obvious aetiology and recognize the hypothesis of a developmental learning disorder affecting language. The ICD-10 defines SLI as present when a child's language skills fall more than 2SDs below the mean and are at least 1SD below nonverbal skills, reflecting a diagnostic classification of the disorder based on statistical cut-offs. DSM-5, on the contrary, has removed reference to NVIQ in the criteria for the diagnostic category listed as 'language disorder' (315.39-F80.9), signalling a move away from a specific and restricted notion of language impairment to encompass a much broader diagnostic area of language difficulties. However, DSM-5 also includes the absence of hearing or other sensory impairment as the primary source of language difficulties and 'intellectual disability' or 'global developmental delay' are no longer seen as definitive features.

The DSM-5 provides a list of diagnostic criteria for 'language disorder' that are inclusionary and not exclusionary in nature as the criteria commonly applied for SLI. In general, the main inclusionary diagnostic elements sum up to persistent difficulties in the acquisition and use of language across modalities (spoken, written or sign language) due to 'deficits' in comprehension or production. Such difficulties include the following (adapted from DSM-5, p.42):

a) Reduced vocabulary (word knowledge and use).

b) Limited sentence structure (ability to put words and word endings together to form sentences that are grammatically and morphologically correct).

c) Impairments in discourse (ability to use vocabulary and connect sentences to explain or describe a topic or series of events or have a conversation).

Besides the presentation of inclusionary criteria, DSM-5 also highlighted that language abilities which are substantially and quantifiably below those expected for age pose functional limitations to children's present and future perspectives, thus recognizing the impact of language difficulties on children's well-being.

The DSM-5 also provides a comprehensive, inclusionary account of diagnostic features for language disorder comprising problems in vocabulary, grammar, comprehension such as word-finding problems, impoverished verbal definitions, poor understanding of synonyms, reduced ability to provide adequate information about key events and to narrate a coherent story.Neither the exclusionary criteria nor the discrepancy criterion that have been the forefront for the diagnosis and identification of *children with SLI* are prioritized in the diagnostic criteria for language disorder listed in the new DSM-5. Instead, the new criteria have a more educational nuance and focus is shifted on to the description of 'persistent difficulties' in the acquisition and use of language across modalities (i.e. spoken, written, sign language or other) due to 'deficits' in comprehension and production, on exemplifying specifically and in practical terms the diagnostic criteria for 'language disorder' and on surfacing the functional limitations that language difficulties pose on children's competence. This educational approach in the DSM-5 may perhaps, firstly, signal that, irrespective of the discrepancy criterion and of statistical cut-offs, what needs to be considered is how language difficulties are manifested in children and how their language abilities are affected and may secondly, reflect the fact that in an educational context, more children may present language difficulties other than those falling into strict diagnostic categories. The reference to the functional impact of language difficulties is yet another educational element; it is directly related to children's profiles of strengths and weaknesses and therefore projects a needs-based approach as a feature of educational decision-making (Dockrell et al., 2006) for *children with language difficulties*. In turn, functional impact is also related to classroom context in terms of the curricular demands that may pose extra challenges to *children with language difficulties*. That said, the role of the teachers comes forth as they are the ones responsible for supporting their students' needs. Seen from this perspective, the new criteria provide a more precise guidance for practitioners in the quest for identification of

children with language difficulties and especially for teachers, as they are less likely to be aware of the discrepancy criterion and of statistical cut-offs but are aware of the curricular demands and therefore more likely to acknowledge on a daily basis children's needs and their functional impact on language competence. Consideration of the functional impact as a potential diagnostic criterion for language difficulties was also proposed by Reilly et al., (2014b) in the debate following the exclusion of SLI from DSM-5, albeit practical and operational caveats.

2.13 Conclusion

Children with language difficulties form a large group of children with varying profiles of need. Their difficulties influence various aspects of the language system like morphology, syntax, vocabulary and pragmatics. Associated problems with literacy, writing and behavioural, social and emotional management often accompany language difficulties and have a significant impact on children's access to curriculum. The following chapter addresses the issue of how the needs of *children with language difficulties* are met in mainstream provision.

Chapter 3. Teachers' role in promoting language development in an inclusive educational context

3.1 Introduction

The general scope of this chapter is to position *children with language difficulties* in an educational context and to highlight teachers' role in promoting language development and in supporting the needs of those children. The chapter gradually moves from the broader notion that teachers need to be aware of language related issues and of issues around language difficulties to teachers' role in students' language development and in overcoming language difficulties. It then highlights that *children with language difficulties* are children with SEN and presents issues around inclusion mainly in the English and in the Greek context to stress that support should be provided in an inclusive classroom environment that benefits *all* students. The chapter concludes with an overview of in-classroom practice for *children with language difficulties* in terms of the instructional strategies/interventions teachers currently use to meet their language learning needs.

3.2 The need for teachers' language awareness

The previous two chapters investigated TLD and language difficulties in school-aged children and showed how aspects of the language system impact on language growth and on children's broader academic skills and how language difficulties impact on children's performances in curriculum demands and school well-being. It was established that oral language skills are the building blocks on which subsequent academic success is based, both for children with typical language development and for children experiencing language difficulties. The role of the adult input in educational contexts was also stressed based on evidence from research studies. School is the formal context where children continue to develop their language skills by acquiring more complex forms and rules of grammar and by communicating through structured and focused activities in diverse subjects. The classroom setting offers a principal environment in which overall language development can be stimulated in a meaningful and naturalistic framework (Brandone et al., 2006; Hoff, 2006). On the other hand, curricula highlight that language development is the principal goal of the learning procedure through

school. Within the Greek educational context, in particular, the last revised edition of the Greek curriculum, stresses that the instruction of the Greek language in primary school aims at enabling students to master oral and written language skills adequately, confidently, consciously, responsibly, effectively and creatively so as to participate actively in school and in wider social communities. As a result, language is dealt with in its natural pluralism, to an extent that is appropriate to children and in accordance with the content of language education (Ministry of Education and Lifelong Learning, 2000)

Communication skills are crucial and a key to life for all children and young people and they underpin a child's social, emotional and educational development (Bercow, 2008). Nowadays, children need not only to finish school successfully but also to participate in the economic and social world of the 21st century. Fillmore and Snow, (2000) emphasize that such reforms place tremendous pressure on children. Children have to master the curriculum and to become skilled users of language whereas teachers need a thorough understanding of *educational linguistics*- how language 'figures' in education- to support their language teaching and to instruct students successfully. Thus, teachers should be able to answer a basic set of questions regarding oral and written language and should also have an underlying understanding that oral language serves as the foundation for academic competence and as the means for learning in school. Knowledge of *educational linguistics* also covers specific morphological, structural, lexical and other linguistic features that all educators should know and incorporate in language instruction so as to improve their teaching methods and to optimize children's learning. For instance, understanding the variety of structures that a native language uses to show meaning in words (e.g. morphological types, inflections, compounding) can help teachers see the source of children's errors and instruct them accordingly and in a more focused way. Principles of word formation can similarly, aid in vocabulary acquisition and enhancement and teachers should be able to guide their students' towards using such information. As shown in Chapters 1 and 2, this is important in highly structural and orthographic transparent languages, like Greek, as the particularities of the language impact on language learning in various aspects of the language system both in typically developing children and *children with language difficulties*.

Likewise, recent research in the UK has focused on teachers' understandings of language and language learning techniques under the term Language Awareness (LA). The Association of Language Awareness (ALA) website currently provides the following definition: 'Language awareness can be defined as explicit knowledge about language, and conscious perception and sensitivity in language learning, language teaching and language use'. In a recent state-of-the-art article, on language awareness and language learning, Svalberg (2007) noted that in the last years there has been an increased emphasis world-wide on language teachers' content knowledge as knowing the language and developing a better understanding of the language and by corollary, of learning and teaching processes will enhance language learning, teaching and use. Conversely, lack of confidence in linguistic subject knowledge such as grammar has been found to influence negatively teachers' pedagogy and classroom practice (Watson, 2015).

3.3 The need for teachers' awareness of language difficulties

Teachers' acknowledgement of the profiles of need of *children with language difficulties* is also crucial as those children are currently educated in mainstream schools (Dockrell et al., 2014; Dockrell and Lindsay, 2001). In countries, like the UK, they are the most frequently reported category of students with special educational needs in primary schools -more than autism and dyslexia (Grist and Hartshorne, 2014). In Greece, there is indication that they are rather undetected and misunderstood (Ministry of Education and Lifelong Learning, 2004; Salonikioti, 2009) (see Section 2.5). Because language is central to so many aspects of human life- cognition, social interaction, education and vocation, early valid identification, prevention and intervention for language difficulties is a high priority (Dale and Patterson, 2010). Early identification means recognizing children's difficulties quickly; as early as possible in their life and as soon as possible after those difficulties become apparent (Bercow, 2008) and valid identification provides the basis for planning interventions and curriculum differentiation (Dockrell and Lindsay, 2014) so as to meet children's needs in an effective way. Law, Tomblin and Zhang (2008), have argued that the severity of language impairment at the time of diagnosis is critical in determining outcome for a child, thus projecting the

importance of a timely diagnosis and identification of symptoms. Additionally, early intervention and language enrichment programmes in preschool and school years have been reported to have a more positive impact than later remedial programmes (Dockrell and Lindsay, 2007). On the other hand, language difficulties are not as short-term in nature as previously thought (Botting, 2002). There is research to suggest that 88% of children identified as having SLI in 7 years, will continue to have language difficulties at 11 years (Conti-Ramsden et al., 2001a) and that language delays persisting beyond early school years are particularly related to poor school outcomes and therefore problems need to be addressed as soon as possible. Thus, professionals involved in intervention and education need to recognize the long-term and specialist needs of this relatively large population of children experiencing language difficulties (Conti-Ramsden et al., 2001b). Teachers should be alert to the ways in which language difficulties can manifest, should be sensitive to the strengths and weaknesses of children in various domains of language development and can play a major role in identifying and planning for the needs of *children with language difficulties* (Bishop et al., 2016). However, a major challenge for practitioners is to identify primary language difficulties and be able to distinguish them from other developmental disorders. This is particularly important as language difficulties are often 'hidden' or masked and may lead to misinterpretations and misconceptions of the profiles of children's needs. Difficulties in comprehension, for instance, can frequently be underestimated and masked by children's ability to infer meaning from the overall context (DSM-5: American Psychiatric Association, 2013). Similarly, undetected and unexplained problems of syntax and semantics in school-aged children, who are otherwise present with adequate language skills, may be an underlying cause of difficulties in achieving higher-level literate language proficiency whereas in other cases language difficulties may hinder reading decoding and spelling skills. In both cases, children may struggle in school but their problems may also be attributed to laziness, shyness or minor effort by teachers and parents (Nelson, 2016).

Further, the complexities of language impairment and the co-occuring difficulties, such as speech difficulties, poor literacy skills and written language problems, presented in Chapter 2, make it urgent that people involved in the identification,

assessment and intervention of language difficulties, need better information and training (Dockrell and Howell, 2015). The CATALISE consortium panel similarly recognized the need for professionals in the field, including educators, to be alert for signs of poor language progress and therefore they should obtain 'a much greater understanding of typical language development and the extent of normal variation as framework for identifying children with oral language needs. […] practitioners need to be well informed of the expected levels of performance of children of the age with which they work and they also need to receive support in using tools to identify language impairment and to track developmental change' (Bishop et al., 2016, p. 21).

3.4 Teachers' role in promoting language development

Children with language difficulties can show progress when provided with the right support (Reilly et al., 2014a). Adding a further perspective to the one mentioned above, to teachers' role in supporting the needs of *children with language difficulties* within mainstream classrooms, researchers in the field present arguments that focus on whether their role can be upgraded to support students' needs in more effective and targeted ways, as opposed to previous research that has mainly investigated the specialist support provided by SLTs. Grist and Hartshorne (2014), argue that since a number of children present 'hidden' language difficulties that are not easy to identify, so as to provide them with specialist help, and since the first point of contact for the majority of children will be their mainstream teacher and not a specialist in language difficulties, it would be a risk over-complicating the system with more SLTs and more specialist help. Rather, what is needed is a well trained early years and school workforce 'coupled with the clinical expertise of speech and language therapists to tease out differences, identify key features, judge responsiveness and plan appropriate intervention' (p. 445). In a similar vein, Norbury (2014) highlights that for students in need of universal service, it would be worth considering whether highly trained SLTs need to provide such services or whether the needs of the majority of these children could be met through the education system, suggesting that teachers should provide universal support for all children while SLTs can focus on students with severe and persistent language

impairments that will require ongoing specialist help. Previously, Lindsay, Dockrell et al., (2012) synthesized findings from BCRP reports and argued that all children have language learning needs, all are entitled to effective teaching to support speech, language and communication development and all can benefit from such teaching. Teachers' role is also stressed by Bishop et al.,(2016) when emphasizing that day-to-day management of children's difficulties is typically the responsibility of the teachers whereas previous indicated that SLTs have also highlighted the development of teachers' skills for supporting language development in school-aged children as opposed to preschool children where emphasis is more on enhancing parents' skills (Roulstone et al., 2012).

3.5 Teachers' role in supporting the needs of *children with language difficulties* in an inclusive context

This and the following sections present the rationale for two parameters of the study; elucidating teachers' views about inclusion and optimizing their role in order to promote inclusiveness.

In relation to the first parameter, the present thesis argues that exploring teachers' knowledge, understanding and attitudes towards inclusion is critical since teachers, are the key to any educational change and improvement. Fullan and Hargreaves (2000) argue that the role of the teachers in promoting inclusion is very important as they are the ones responsible for the implementation and success of such a change. Ainscow (2005) also suggests that in order to help educational systems become more inclusive, the nature of teachers' beliefs and consequent actions must be understood. In relation to the Greek educational system, Tsakiridou and Polyzopoulou, (2014) emphasize that since teachers are educating children with SEN and typically developing children in their classrooms, their role in promoting inclusion becomes very important and further stress that studies should be designed in order to change and improve the teachers' role in the context of the classroom. This study explores Greek teachers' views and attitudes towards inclusion so as to gain insight into how teachers support the needs of children with SEN.

Children with language difficulties are a category of children with special educational needs (SEN) (Dockrell and Lindsay, 2001; Dockrell et al., 2012b;

Dockrell et al., 2012b). Thus, when examining teachers' understandings of the profiles of need of *children with language difficulties,* their views about the inclusion of this group of students in mainstream provision should also be elicited. In the UK, however, as pointed out by Dockrell and Lindsay (2000), there are more studies examining the clinical profiles of *children with language difficulties* and fewer studies exploring the ways their needs are met within schools and the every day challenges faced by teachers. But even so, a search of the UK literature yielded a number of research studies about provision for *children with language difficulties* and about the ways their needs are supported in mainstream schools. Online recourses for teachers and other professionals in the field are also available in the English literature including teaching strategies, intervention programmes and proposals of collaborative work. In Greece, there is currently a similar research pattern of a large bulk of linguistic studies of the clinical profiles of Greek speaking *children with language difficulties* but a notable dearth of educational studies examining provision for those children. Chapter 2 presented a large amount of Greek studies targeting children's specific problems with aspects of the language system with some of those presenting detailed accounts of underlying linguistic mechanisms of the language processing system. By contrast, at the time of embarking on this thesis and when the literature review chapters were updated, there were no published studies exploring Greek teachers' understandings of issues around TLD and language difficulties combined with the particularities of the Greek language and no studies investigating the profiles of need of *children with language difficulties*. The terminological confusion, the lack of clarity in inclusionary criteria and professionals' contradictory views about who *children with language difficulties* are, as presented in Chapter 2, may also be applicable to the Greek reality and may have resulted in limited research in the field. Additionally, Section 2.5, examining prevalence figures provided a further indication of the confusion between *children with language difficulties* and children with learning difficulties in governmental documents.

The only Greek study relevant to the present thesis is an unpublished master's dissertation by Salonikioti, (2009). The study examined similar issues within the Greek educational system and has provided preliminary data for some of the issues

investigated in the present thesis. Where findings of that study overlap with issues addressed in the present thesis, they are then presented. Limitations of the study are also documented and it is further clarified how they were overcome in this doctoral thesis.

3.6 Inclusion

In presenting the rationale for the second parameter, this section first provides an account of what is meant by inclusion and gradually builds a case on the role teachers can play in supporting the needs of *children with language difficulties* while promoting inclusion.

It is well established that the ideology of inclusion is an ideology of the fundamental human rights. Education systems in many countries have changed drastically in the last few decades to promote the inclusion of students with SEN in mainstream schools (de Boer et al., 2010; Soulis et al., 2016; Vlachou and Fyssa, 2016). Indicative definitions of inclusion reflect this shift. For instance, definitions describe inclusion as 'the process of educating children with disabilities in the regular education classrooms of their neighbourhood schools- the schools they would attend if they did not have a disability- and providing them with the necessary services and support' (Raffetry,Boettcher and Griffin, 2001 as cited in de Boer et al., 2010) or 'as taking a full and active part in school-life, be a valued member of the school community and be seen as an integral member' (Farrell, 2000, p. 154). Parallel to the development of inclusive policies, terminology to denote pupils with disabilities changed and shifted away from terms such as 'disabilities' and 'handicaps' to the 'special educational needs' that students may have. Inclusion and inclusive education are then concerned with the quest for equity, social justice, participation, and the removal of all forms of exclusionary assumptions and practices and are based on the principle that all pupils, including those who have different profiles of needs, are considered to be valued and respected members of the school community (Zoniou-Sideri and Vlachou, 2006a). To implement that, children with SEN need to be educated within mainstream settings instead of being referred to special schools. Inclusion, then, aims at providing education for all children in the classroom, regardless of disability or

special educational needs and as such, is related to the much larger concept of 'social inclusion' and valued status for all people in society irrespective of differences or disability (Costello and Boyle, 2013; Tsakiridou and Polyzopoulou, 2014). This notion of 'social inclusion' questions then the provision of separate kinds of education for different categories of children and challenges segregating practices on the basis of their difficulties. By contrast, it sees *all* children as having different profiles of needs and envisages that those needs could be met within the premises of mainstream school. In that sense, inclusion moves away from a narrow perspective that refers to specific groups of students, such as students with disabilities or with special educational needs in mainstream education, to a broader one that focuses on diversity and on how best to organize schools and learning to accommodate *all* students' needs.

The indicative definitions of inclusion mentioned above highlight the fundamental values of inclusion as an ideal. However, it could be argued that they are rather theoretical assumptions and do not provide a clear indication as to the 'how' of inclusion. Armstrong et al., (2011, p. 30) supported this idea by arguing that 'the meaning of inclusion is by no means clear and perhaps conveniently blurs the edges of social policy with a feel-good rhetoric that no one could be opposed to'. Thus, what needs to be clarified is how mainstream schools can best serve inclusiveness. More elaborate definitions of inclusion seem to have taken such considerations into account. For instance, Zoniou-Sideri and Vlachou, (2006a, p. 379) describe inclusion as a complex process that requires 'a social view of disability and a deconstruction of special educational needs and at the same time the restructuring and reorganization of each mainstream school and its curriculum and management structures in order to provide a culture and practice in which all barriers to participation can be identified and ultimately removed'. Central to this process is that children's differing profiles of need act as contributing and shaping factors 'to the social structures of the school, to the curriculum and to the strategies used by teachers to teach *all* children' and therefore, 'the problem/challenge today is not the function of special schools but the emergence and reproduction of special education paradigms and rituals in regular education'. Avramidis and Norwich (2002) had also previously described inclusive education as the process of restructuring

mainstream schools so that all schools are able to accommodate all children, regardless of disability or SEN. In tandem, over the last decades, the notion of inclusion has been extended in terms of the participation of students with SEN in programmes and activities which were, until recently, exclusively aimed at children with TLD (Soulis et al., 2016). Such approaches to inclusion place students' profiles of needs at the heart of inclusive policies and entail that schools should ensure teaching adaptations to optimize learning and meet the educational needs of all students. Inclusion, then, reflects all those efforts that are devoted to placing students with and without SEN in inclusive classrooms in the same school environment so that all children receive the support they need to reach their full potential from the earliest opportunity, whatever their special needs are (Parsons et al., 2011; Soulis et al., 2016).

3.6.1 Inclusion in the Greek educational context

In order to reflect on Greek teachers' responses to the inclusion of *children with language difficulties* and on the strategies they use to promote inclusion and to enhance language learning, it is first necessary to provide the educational framework that Greek teachers work under.

The Greek educational system is a highly structured, centralized system in which decision-making follows a top-down model. Educational policy is formulated and enforced by the Ministry of Education and Lifelong Learning, which exercises a rigid control over school procedures such as staff appointment, curricula creation and distribution of textbooks, time table prescriptions, resource allocation, in-service training, and school organization. Greek schools follow a common school policy and a strict academically oriented national curriculum. They adopt the same instructional guidelines and are provided with the same textbooks and an almost identical timetable (Avramidis and Kalyva, 2007; Fyssa et al., 2014; Vlachou, 2006; Vlachou and Fyssa, 2016; Zoniou-Sideri et al., 2006; Zoniou-Sideri and Vlachou, 2006a). However, although this uniformity partly reflects 'political rhetoric towards strengthening equality and establishing democratization and modernization of education', it also demonstrates the unwillingness of an inflexible and under-resourced system to negotiate educational processes and outcomes and meet the

diverse needs of its pupils (Vlachou, 2006, p. 41). Thus, the Greek educational system is a traditional and inflexible system that poses restrictions to educational processes and outcomes and leaves little space for differentiating teaching and learning. As a result, it restricts implementation of inclusive policies. However, there is a notable contradiction at this point in relation to Special Education. Greek teachers are more autonomous and allowed to choose their own instructional approaches and intervention strategies for students in their classes and research has indicated that they do so based on their personal experiences and less on professional qualifications (Avramidis and Kalyva, 2007). However, the impact of context is always present and shapes the goals of education. For instance, when they enter secondary education, Greek students begin to undertake strictly academically oriented written exams and at the end of secondary provision, take a national examination to enter University (Tsikalaki and Kladi-Kokkinou, 2016). Even though, primary school students do not take exams, the syllabus in primary school is also academic so as to prepare them for the demands of the written exams in secondary schools. In terms, then, of what is mainly targeted in language instruction, in practice, is written competence and therefore communication skills are not a priority within the Greek educational system.

Social beliefs about disability have shaped the framework of SE in Greece over the last decades. Disability used to revolve round a medical model of disability and any discourse on the issue was never meant to be a discourse of the rights of the disabled people; instead it focused exclusively on their different 'needs' 'with the underlying paradoxical assumption that the introduction of 'needs' as a basis for educational and welfare state practices will reduce inequalities' (Vlachou-Balafouti and Zoniou-Sideri, 2000 ,p.30). However, as reflected in the definition of children with 'disabilities / special educational needs' included in the latest legislation on SE (Law 3699 Act of 2008, Article 3) (Ministry of Education and Lifelong Learning, 2008) (In Greek) ,there was a shift towards acknowledging children's differing profiles of needs. Thus, children's needs are not perceived as a discriminating factor but as a distinguishing factor of their differing profiles of difficulties as they have been formally assessed. Thus, the Act defines as children with 'disabilities / special educational needs' 'those who present significant learning difficulties due to

sensory, mental, cognitive, emotional, social and developmental problems, during their whole school life or for a part of it, which, according to the multidisciplinary assessment, affect accommodation to school and access to learning (author's translation).

3.6.2 Factors influencing teachers' stance towards inclusion

Research has so far investigated or has indicated a number of factors affecting teachers' stance towards inclusion. However, research findings have been consistent for some factors but controversial for others across studies, thus reflecting a complex pattern of factors that should be considered to promote positive attitudes towards inclusion (Vaz et al., 2015). Avramidis and Norwich (2002), conducted a review of the literature and found that the most inconclusive evidence about factors influencing educators' stance on inclusion was in relation to teacher-related factors, followed by child-related and environmental factors. The following sections present those factors.

Child- related variables

The type and severity of a child's disability seem to influence teachers' views about inclusion and the picture is rather unaltered throughout the years. In the review mentioned above, for instance, evidence of child-related variables has clearly indicated that teachers are more willing to include students with mild disabilities or physical/sensory impairments in their classrooms than students with more complex needs, like severe learning needs or behavioural/emotional problems (Avramidis and Norwich, 2002). The same is also true in the Greek educational context. Avramidis et al.,(2000) showed that pupils with emotional and behavioural difficulties are seen as causing significantly more concern to teachers than pupils with other types of disability, thus reflecting a restrictive and discriminatory view of inclusion. Findings were replicated seven years later by Avramidis and Kalyva (2007), suggesting no change in Greek teachers' attitudes and hence mirroring deep rooted negative views about disability.

Teacher-related variables

One of the main parameters that studies have highlighted as affecting inclusion is teachers' attitudes and their beliefs of disability but evidence on whether teachers hold positive or negative attitudes is not conclusive. Some studies suggested that teachers have a positive stance on inclusion (Avramidis et al., 2000; Avramidis and Norwich, 2002; Vlachou, 2006) and also that more positive attitudes have been found to be related to successful inclusive education (Avramidis and Norwich, 2002; Boyle et al., 2013). However, in a recent review of 26 studies, there were no studies that reported clear positive results and it was revealed that the majority of teachers were sceptical about inclusion and held neutral or negative attitudes (de Boer et al., 2010).

Although research has been limited in the Greek context, it is interesting to ascertain that it is similarly inconclusive and contradictory. Early studies investigating attitudes towards inclusion captured cautionary attitudes but even thoough that could be attributed to reservedness when introducing new educational policies, no substantial changes have been documented over the years. It is argued that Greek teachers have traditionally been sceptical about inclusion with attitudes being either neutral or negative (Karakoidas and Dimas, 1998). In 1997, for instance, Padeliadou and Lampropoulou, examined the attitudes of 377 Greek regular and special education teachers towards inclusion and found that teachers had a neutral and cautious stance mainly dependent on the nature and the degree of a student's disability. Following studies have indicated that there is a positive trend towards the general concept of inclusion amongst the Greek educators (Avramidis and Kalyva, 2007; Boutskou, 2007; Koutrouba et al., 2008; Zoniou-Sideri and Vlachou, 2006b), that Greek teachers are willing to fight discrimination despite obvious infrastructural, professional and institutional hindrances (Koutrouba et al., 2008) but that they also hold restrictive and exclusionary views (Zoniou-Sideri et al., 2006). Studies have also revealed contradictions, as, on the one hand teachers report being in favour of inclusion, but on the other, they view the process as dependent on the type and severity of the child's 'needs' and of resources available, thus suggesting that inclusion is not seen catholically (Avramidis and Kalyva, 2007). Koutrouba et al., (2008) similarly reported that teachers who were not in favour of inclusion in her study, indicated, as barriers to inclusion, the

inflexibility of the curricula, the considerable effort they have to undertake in order to diversify their teaching and evaluating methods in mixed-ability classes and finally the negative impact on the academic performance of the rest of the students with no SEN. Such views, however, indicate discriminatory attitudes and a subjective view of disability. Thus, attitudes, seem to have remained unaltered over the years, reflecting what Zoniou-Sideri et al., (2006) has documented about inclusive education in Greece as 'still struggling to establish its pace within the Greek educational system'.

Teacher education has been found to be critical in developing teachers' pro-inclusion attitudes and in promoting inclusive practices but evidence is mixed. Boyle et al., (2013) found that studying for a module in special education after obtaining formal teaching qualifications, had a significantly positive impact on attitudes to inclusion. Similarly, trainee teachers were found to be more favourable of inclusion after having attended a module on diversity in a post-graduate degree (Costello and Boyle, 2013) and to obtain a better understanding of the needs of children with SEN after completing a course with a strong focus on inclusive education (Campbell J et al., 2003). However, there is also evidence to suggest that training alone does not effect a change of attitudes. For instance, Costello and Boyle, (2013) mentioned above, also noticed a gradual decline of teachers' positive attitudes towards inclusion after the first year in service, indicating that their attitudes were not grounded in a deep rooted acceptance of inclusion and in a particular ideology. By contrast, Vlachou and Fyssa, (2016) examined training - among other variables- as a teacher characteristic that could potentially lead to the implementation of quality inclusive programmes in Greek preschool settings. Teachers in the sample were both mainstream (N=58) and special working in integration units (N=38). Almost all special teachers (94.7%) had completed substantial training or had a master degree in SE and a minority of 11 mainstream teachers (19%) had some kind of informal training in SE. Teachers were observed in classrooms and the quality of their inclusive practices were evaluated as 'high', 'low' or 'minimal'. With regard to training, although results indicated that the quality of inclusion was higher in classes with trained teachers, the effect of this variable was not found to be statistically significant, indicating a rather confusing

picture of the role of training in teachers' practices. With regard to years of teaching experience, findings indicated younger mainstream teachers to be more positive towards inclusion than older teachers, However, those findings contradicted previous research by Avramidis and Kalyva, (2007) which had indicated that teachers with more than 20 years of working experience expressed more positive views about inclusion than younger colleagues. Results further revealed that quality of training is an additional critical factor that differentiates teachers' attitudes. Teachers who had attended long-term courses had a more positive stance towards inclusion than those with short-term professional development, suggesting 'that short overview courses may not be sufficient to produce substantial positive changes in teachers' attitudes towards inclusion' (Avramidis and Kalyva, 2007, p. 385). Boutskou (2007) also reached similar conclusions about the quality and quantity of Greek special teachers' training. She drew on national statistics and indicated that   Greek special teachers cannot be considered fully trained as 80% of them are primary teachers who started their career in mainstream provision and after attending a two-year-in –service-teacher training programme provided by the Ministry of Education and Lifelong Learning, they graduated as special teachers and continued working in integration units incorporated in mainstream schools or in special schools. However, these training courses have prove not to be adequate and successful in raising the standards of SE in Greece (Zoniou-Sideri and Vlachou, 2006a). Only a minority of 8% had a Master or PhD degree in the field, while the remaining 12% had no extra qualification apart from years of experience in integration units or any other special education setting. Such findings, however, are not unique to Greece. Researchers from other countries also document that teachers have been found to 'have no recollection of inclusive education training, despite possibly being on a course', thus suggesting that 'they did not recognize such a course as what it was' (Boyle et al., 2013, p. 538).

Environmental-related variables

With regard to environmental-related variables, there is consistency in findings suggesting that 'a significant restructuring in the mainstream school environment should take place before students with more complex disabilities are included'

(Avramidis and Norwich, 2002, p. 142). This is a very important element as Scruggs and Mastropieri, (1996) had previously presented evidence that teachers' attitudes towards inclusion can often be based on practical concerns about how inclusive education can be implemented, rather than be grounded in any particular ideology. The studies reviewed, yielded, that 65% of teachers, on average, supported the general concept of inclusion but only one third of those believed that they had sufficient time and recourses necessary for implementing inclusive programmes. Such common practical concerns that have been raised by teachers as factors hindering inclusive policies, include: lack of resources, sufficiency of teaching time and adaptations to the curricula necessary to meet the multiple and completely diverse types of special need, limitations in supporting the individualized needs of children with SEN, lack of adequate support services and of collaboration with other professionals (Vaz et al., 2015). In the Greek educational context, Koutrouba et al., (2008) and Avramidis and Kalyva (2007) similarly reported that Greek teachers who were not in favour of inclusion in their studies, indicated, as barriers to inclusion, the lack of infrastructural equipment, the lack of time and the limited resources available.

3.6.3 Provision for *children with language difficulties*

3.6.3.1 Meeting the needs of *children with language difficulties* in mainstream provision.

An overview of the studies conducted so far, reveals that although *children with language difficulties* are often placed in mainstream schools with or without extra support (Conti-Ramsden et al., 2002; Dockrell and Lindsay, 2001; Lindsay et al., 2010; Lindsay and Dockrell, 2002), 'little attention has been paid to class teachers' views about the children's problems and educational needs' (p.369) (Dockrell and Lindsay, 2001), their training and knowledge gaps in the field and the everyday barriers they come across in their effort to meet the needs of their students. The existing studies have documented that teachers lack confidence and feel unprepared by their initial training to support the needs of *children with language difficulties* (Dockrell and Lindsay, 2001; Dockrell and Howell, 2015; Lindsay et al., 2010; Lindsay and Dockrell, 2002; Markham et al., 2009; Marshall et al., 2010) and similarly, that although teachers are concerned about children's language learning

and are equally aware of the importance of efficient language skills for young children, they express anxiety and lack of knowledge in their ability to support them (Locke et al., 2002).Sadler (2005), investigated mainstream teachers' knowledge, attitudes and beliefs of children with speech and language difficulties and also showed that over 60% lacked confidence in their ability to meet those children's needs.

The type and severity of a child's language difficulties also play a role on how teachers' perceive them and on expectations for their students' academic performances. Marshall et al., (2010) conducted semi structured group interviews with trainee teachers designed to provide a more in-depth analysis of the their views, their knowledge on issues of inclusion was also found to be limited and restricted to a theoretical, medical model of disability with little mention of a social model. As a result, they considered the type and severity of students' language difficulties as an adverse factor of inclusion and did not show willingness to teach *children with language difficulties* in mainstream classrooms. Results also revealed knowledge gaps and confusion in participants' understandings and in their ability to identify language difficulties as they could not distinguish between language difficulties and other disabilities whereas in some cases they connected physical impairments with cognitive ones. Previously however, Marshall et al., (2002b) examined post graduate student teachers' expectations about *children with language difficulties* and found that they held positive views despite concerns regarding resources and lack of knowledge and training.

Research has also indicated additional issues that impact on the ways the needs of *children with language difficulties* are met within mainstream provision, such as the quantity and type of contact they have with other professionals like speech and language therapists as successful collaboration cannot be 'simply ensuring that different professionals are involved' but it rather requires effective joint working (Lindsay and Dockrell, 2002 ,p.95). However, Sadler (2005) found that teachers relied mainly on books and 'hands on' experience to support the needs of their students but also believed that they could draw on the experience and specialist knowledge of other professionals.

3.6.3.2 Provision for *children with language difficulties* within the Greek educational system and Greek teachers' perceptions

As mentioned before, Greek research in the field is very limited. Salonikioti, (2009) conducted the first study which examined strategies of Greek primary school teachers to support children with Speech, Language and Communication Difficulties (SLCDs) (term used in the study) in the mainstream classroom. Data were collected by means of a questionnaire distributed to teachers in four schools situated in an urban city in the middle-east of the country. Teachers were asked about their understandings of the profiles of need of children with SLCDs, their views about inclusion and the ways they support their students' needs. There were a total of 10 questions, 6 of which included closed, multiple-choice items and 4 were open questions. Despite the small sample size (N=30), results corroborated those of previously mentioned Greek studies about inclusion and added a number of points that are relevant to our understanding of Greek teachers' views about educating children with SLCDs in mainstream classrooms. First, Greek teachers showed strengths in acknowledging a number of problems that children with SLCDs have. They reported problems mostly with the use of language, with verbal communication and with phonology and articulation. They also referred to associated difficulties (literacy) and to behavioural problems (low self-esteem, aggressiveness, peer problems). With regard to provision, it was indicated that Greek children with SLCDs are educated in mainstream schools as teachers reported having children with this type of special needs in their current classes. It was further indicated that Greek teachers lacked adequate training and collaboration with other professionals while at the same time participants reported working in an inflexible educational system that does not promote inclusion, resulting in the majority of the children with SLCDs being left unsupported within the mainstream classroom. Participants also highlighted their knowledge gaps of issues around SE and the limited collaboration with other professionals like special teachers and SLTs as factors that affect the support provided to students with SLCDs. Teachers also reported being experienced in educating children with SEN but no statistical significant associations were found relating teaching experience to the questionnaire answers, which perhaps reflected confusion about teachers understandings of SLCDs but also corroborated findings previously mentioned in the review by

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Avramidis and Norwich, (2002) that evidence of experience as a teacher-related factor affecting teachers' views is still inconsistent. Results also revealed contradictions; 67% of the participants considered themselves not to have had enough training to support the needs of children with SLCDs in mainstream provision but when asked later about the teaching strategies they used to enhance children's language skills, they reported numerous strategies. Further, 88% of teachers declared that they 'got the information for the strategies they used, through seminars and training' (Salonikioti, 2009, p. 83). However, the finding contradicted previous research which has provided sufficient evidence of lack of training amongst Greek teachers in issues of SE. Avramidis and Kalyva (2007) reported that 63% of teachers in their study had received no training at all and similarly Koutrouba et al., (2008) found that 81% of her secondary teachers sample had never attended a seminar. If teachers' attributions of the profiles of need of students with SLCDs had been cross examined with evidence from formal assessment of a number of students, then results would have yielded a more comprehensive picture of teachers' understandings about language difficulties and the students' needs. A second contradiction which was revealed, would further justify children's formal assessment. Teachers were asked to indicate whether they currently had *children with language difficulties* in their classrooms and 26 out of the 30 participants (87%) reported that they did, even though 67% had previously highlighted their lack of training in supporting the needs of children with SLCDs. However, as also pointed out by the researcher, this was a methodological limitation of her study. The design of the present thesis, addresses all the above issues in a more detailed, multidimensional scope and perspective and also includes evaluations of children, identified as having language problems by their teachers, based on a battery of tests, thus addressing the gap in the literature.

3.7 Interventions for *children with language difficulties* – Overview

The following sections address the issue of interventions for language difficulties. Since *children with language difficulties* are in mainstream and are educated by regular teachers, it is important to examine the strategies that educators use, or if any, to support their students' needs. However, although the nature and impact of

language difficulties on children has been researched to a significant degree, as shown in the previous chapter, there is a notable gap in research investigating in classroom support for *children with language difficulties*. Indeed, relevant literature has been limited so far although the first step in understanding the effectiveness of interventions currently in practice is to record those interventions (Roulstone et al., 2012) and further, knowing the amount and content of pupil support is essential to predict response to intervention and to model progress (Dockrell, Ricketts and Lindsay, 2012a). A number of recent reports published in the UK and as part of the BCRP by Roulstone et al., (2012), Law et al., (2012a), Dockrell et al, (2012b), Dockrell et al., (2012a) and Dockrell, Ricketts and Lindsay, (2012b) reviewed or included reviews of current interventions for in-classroom oral language support by SLTs and teachers. An overview of those reports findings is presented in Section 3.7.2 below. In the Greek literature, the only study examining teaching strategies for oral language difficulties by the time this thesis was completed was the study by Salonikioti, (2009), presented in Section 3.7.3.

3.7.1 Evidence-based interventions and educational implications
Dockrell et al.,(2012b, p. 23) emphasize that 'activities to scaffold language development should be provided in a regular and deliberate manner' whereas Law et al., (2012a) further argue that interventions represent specific activities designed to enhance oral language or other skills and that such activities need to be conventionally 'over and above' (p.11) what children would otherwise receive in routine classroom approaches. Such indications, though, raise the question of what constitutes an evidence-based intervention and those are designed and implemented. It is argued that this is far from an easy task. According to Ebbels (2007), for instance, the challenge with interventions for language difficulties is to establish the most focused and effective methods for each area of language, for each group and for every profile of difficulties. Taking into consideration the heterogeneity in the profiles of children's needs presented in Chapter 2 and the fact that interventions may include approaches ranging from general sets of actions, techniques or procedures (or a combination of these) to specific programmes (Roulstone et al., 2012), the process becomes even more complicated. As a result, there is dearth of evidence-based interventions for *children with language difficulties* (Ebbels, 2007;

Law et al., 2004) and there is always the question of effectiveness of the interventions current in use. However, studies that have tested such interventions, provide insightful feedback and add to our understanding of the profiles of needs of *children with language difficulties* and to the ways their needs are to be met.

For instance, Ebbels (2007) examined the effectiveness of an intervention programme called 'Shape Coding' (p. 69) which uses shapes, colours and arrows to make the grammatical rules of English explicit. The sample included older children with SLI (more than 7 years old) and the intervention targeted verb argument structure, the dative form, wh-questions (including comparative questions), passives and past tense. In general, results indicated improvement in children's scores and suggested that the Shape Coding system is flexible enough to be used in the instruction of grammatical rules in *children with SLI*. Analysis of individual cases, though, revealed that not all children can benefit and not for all of these structures, as was the case with the past tense. However, when taught in pairs and not in a group, children were able to improve. Such results reflect the differing profiles of needs of children with SLI and further attest to the assumption that the individual's profile and the holistic needs of the child have to determine the intervention approaches chosen (Reilly et al., 2014a; Reilly et al., 2014b) and also that the specific nature of children's problems need to be carefully considered if their needs are to be met (Snowling and Hulme, 2011) (recall Section 2.4.2).

 Ebbels et al., (2007) also investigated two theoretically motivated interventions that could improve verb argument structure again in older children with persistent SLI (aged 11;0 to 16;1). Participants (n= 27) were randomly assigned to three therapy groups: syntactic-semantic, semantic and control and all received 9 weekly half-hour therapy sessions. All were assessed before and after the intervention programme and were reassessed in a follow-up after 3 months. Pupils in the first two groups made significantly greater gains in their overall use of verb argument structure than the pupils in the control group who did not receive any therapy. Progress was maintained in the follow-up testing, suggesting that the significant effects of the intervention lasted for a longer period. More importantly, though, progress was found to be generalized beyond the targeted verbs included in the

intervention, indicating that the therapy had a broader effect on children. Taking into consideration that the language system comprises interrelated subcomponents, then gains in one component, may also result in gains in another component.

Parsons, Law and Gascoigne, (2005) introduced eighteen new mathematical terms to two boys with SLI (8-9 years old) attending mainstream schools through a curriculum-based assessment and therapy technique. The results of the intervention were encouraging and highlighted the need for curriculum-based assessment and treatment methodologies for *children with SLI* that are adapted to the demands of the curriculum in mainstream provision instead of simply transferring traditional clinical models of intervention to the classroom.

3.7.2 Overview of current evidence-based interventions/approaches to enhance oral language development

In their reports, Roulstone et al, (2012) and Law et al, (2012a) documented significantly large numbers of practices currently in use (158 and 57 respectively). Those practices reflect nuanced elements of teaching approaches that could be incorporated in generic language teaching methods and to optimize the understanding of language. Indicatively, some of the interventions/approaches/ interactions listed in the above reports included: modeling, creating a language rich environment, visual approaches to support language, commenting, extending children's language, increasing awareness of errors, imitating, using natural gestures, getting down to a child's level, using open-ended questions, encouraging listening skills, encouraging turn taking, using lexical or syntactic contrasts, oral scripting of activities, label items/actions, everyday practice to develop communication skills.

Besides the notable variability in interventions, which somewhat reflected the diverse range of needs that *children with language difficulties* may experience, other main findings indicated that there was no consistent way of describing those interventions as participants referred interchangeably to programmes, principles, activities, targets, resources and approaches, that there was overlap among interventions but also differentiation of approaches depending on the age of the

child. Such outcomes further pointed to the use of strategies mainly based on the practitioners' personal choices rather than on a known, set framework for practice.

In the reports, interventions were broadly classified into three levels, namely 'universal', 'targeted' or 'specialist'. Universal interventions are generic and applicable/available to all children. Targeted interventions are applicable to specific groups of children who are at risk and who are anticipated to respond to the intervention provided. Specialist interventions are reserved for those children who have persisting language difficulties and have not responded positively in earlier interventions or other support provided. However, the 'boundaries' among universal, targeted and specific interventions are not always distinct as twenty-three out of the fifty-seven interventions could not be classified but were, rather, applicable to all three levels, if adapted to meet the needs of individual children. An important implication of such a finding is the indication that interventions should not focus solely on remediating isolated language skills because this may deprive children of the meaningful context needed to promote effective learning. Instead, specialized interventions to improve language skills could be integrated into existing routines using a holistic approach to instruction and in that way, *children with language difficulties* can benefit from school- based programmes designed to foster language development for all children (Law, Reilly and Snow, 2013). What is rather needed is a more focused and more insightful nuance to language teaching that seems to be missing in teachers' methods as they are more likely to resort to generic and rather conventional strategies. This was somewhat captured by Dockrell et al., (2012b) when they examined interventions within the educational context. Teachers and SENCOs working in a total of 74 mainstream schools were asked to report on the ways they meet the needs of *children with language difficulties*. Pupils were afterwards observed during an English/literacy lesson. Teachers reported on their use of particular strategies for teaching and learning to differentially support the needs of their students but, nevertheless, examination of those pedagogical practices revealed that there was limited evidence for the use of specialist packages for language or literacy, indicating perhaps that what teachers were using were rather universal strategies and not targeted or specialist ones.

Another overall finding was a discrepancy between theory and practice. On the one hand, teachers stated differentiating the content of the curriculum (e.g. the level of what was being taught) for children with poorer performances on oral language measures or differentiating the structure (e.g. use of breaks) for other children with SEN but this was not reflected in the observation findings. Although it was possible to capture some differentiation, this was again limited to the principles and practices of teaching, not to packages and programmes. However, additional data on the language strategies teachers use for typically developing children would provide a more indicative and accurate 'reference norm' and would give information on how focused generic   interventions used for typically developing children were distinctively different to interventions for *children with language difficulties* and to what extent. The present thesis targets this parameter by documenting teaching approaches to oral language instruction for typically developing children.

3.7.3 Interventions used by Greek teachers to support oracy skills

In the Greek educational context, Salonikioti (2009) investigated Greek teachers' strategies to support *children with language difficulties* (children with SLCNs in the study) in the classroom. It is surprising that findings from a small-scale study and in a different educational system than the one in the UK, resembled to an extent findings in the BCRP reports.   Teachers were provided with a Likert-scale questionnaire with 25 closed and 4 open-ended questions asking them about how often they used particular in-classroom strategies to meet the needs of *children with language difficulties*. Analysis of responses yielded a large amount of teaching strategies that varied in content and scope. Quantitative results indicated that practicing language comprehension through general content questions was a primary target but practicing oral language skills was not an equal priority, thus portraying a rather discouraging picture of in-classroom support for *children with language difficulties* (Salonikioti, 2009, p.88). Strategies reported for the practice of oral language skills in open questions were restricted in number but varied interchangeably in nature, context and scope. They were selected by teachers individually to the best of their knowledge, with no prior collaboration with special teacher or a SLT. They were thus, based on personal experience and not on any evidence-based interventions or specifically designed approaches. The finding here

perhaps reflected the fact that within the Greek educational system, teachers are autonomous to use their own teaching strategies.

However, a methodological limitation of the study casts a doubt on whether teachers were actually using the strategies they reported. That is possible because all Likert-items were, in fact, leading-in questions; they provided respondents with specific teaching strategies and only asked for the frequency of their implementation. Hence, it could also be possible that the answers did not depict reality and in-classroom practice but rather reflected participant acquaintance; an element which was further indicated by participants' answers to the open questions of the questionnaire. Reported strategies did not reflect differentiated practices or use of targeted or specialist interventions but were rather general teaching approaches (e.g. ask children comprehension questions, encourage participation in classroom talk, simplifying curriculum goals). The questionnaire developed for the present thesis did not provide Greek teachers with a list of interventions/strategies to support oracy skills as it was predicted that responses would be positive to a large extent. Further, it was expected that teachers would report a large variety of approaches and it should therefore be explored whether they were focused, evidence-based or generic ones.

3.8 Summary

The three literature review chapters set the background of the present research. Their aim was to combine typical language development and language problems that a number of children face with teachers' role in promoting language growth and language learning and in supporting the needs of *children with language difficulties* in an inclusive ethos. In doing so, the first chapter highlighted language as a dynamic learning mechanism in the minds of all children and as a powerful teaching tool in the hands of their teachers or as Mercer, (2005) put it, language can be a social mode of thinking, a tool for teaching-and-learning and of constructing knowledge. The second chapter presented language difficulties in young children as a spectrum and indicated that all children have differing language learning needs. The third chapter highlighted teachers' role in enhancing children's oral language

skills and further indicated that teachers' efforts to support the specific needs of *children with language difficulties* can take place in inclusive classroom practices.

Chapter 4   Conceptual methodological framework and design

4.1 Introduction

This study followed a Mixed Methods (MM) research approach which involved the design and implementation of three different phases; the first phase was an initial exploration of Greek teachers' understandings of TLD and language difficulties and their attitudes towards inclusion of *children with language difficulties* in mainstream provision, the second was a questionnaire survey and the third a formal assessment process of the students' language skills. The aim of this chapter is to present the conceptual methodological framework and the overall research design of the study. For issues of clarity and to ease the reader, specific details of how each research phase was administered (i.e. rationale for survey stages which involved interviews, questionnaire and an assessment process, participants, procedure and materials) are presented separately in the following chapter.

Collins, Onwuegbuzie and Sutton (2006a) suggest that MM studies can be designed in three stages, namely the formulation, the planning and the implementation stage. This methodological chapter describes the first two stages. It begins with the formulation stage of the research involving the study's goal and objective, the research aims and the phases of the study and the rationale for choosing a MM approach with QUAL and QUAN strands and a Sequential Exploratory Design. The sections that follow describe important sampling dimensions that needed to be considered beforehand, integration points between the QUAL and QUAL strands and also discuss issues of inference quality in previous MM studies and in the present one. The theoretical perspective, the philosophical stance that lies behind the chosen methodology and ethical issues are also presented. The chapter continues with sections on the implementation of the administered research phases.

4.2 Research aims

The literature review of Greek studies in the field of Special Education and of *children with language difficulties* formed the bibliographical background for this thesis. The search through the literature was complicated because of the various terms used for language related difficulties in young children, as exemplified

previously in Chapter 2. There was not a single comprehensive term to enter to search engines so a list of terms currently found in the international and Greek literature was used. Terms were broader at the beginning but refined and more detailed as the search progressed and the search continued throughout the thesis as new dimensions of language related issues needed to be examined. Initially, the search terms comprised phrases such as '*children with language difficulties'*, 'specific language impairment', 'speech and language difficulties', 'language learning difficulties' 'children with communication difficulties'*,* 'typical language development in Greek speaking children', 'teachers' understandings/ knowledge of language related problems', ' inclusion of *children with language difficulties* in mainstream provision'. Later, more refined search terms including more elaborate terms and phrases were used such as 'pragmatic language difficulties' 'morphological awareness in *children with language difficulties'* 'teaching approaches to language problems', 'emotional and behavioral difficulties of children with language problems'. The searches yielded information, mainly about the nature of language difficulties in Greek speaking children, but at the same time revealed gaps in the documentation of Greek teachers' understandings of language related issues and of teaching approaches to language learning. Those gaps were outlined in the Introduction of this thesis and in the three literature review chapters. To provide coverage of language development, language difficulties and teaching approaches, various search engines were used. The main ones were Google and Google Scholar, Web of Science (WOS), the Education Resources Information Centre (ERIC), the British Education Index (BEI) and the IOE and later UCL library search engines. Further Greek search engines included the National Archive of Doctorate theses, the database of the National and Kapodistrian University of Athens and the Hellenic Academic Library Link (HEAL-LINK). Specific international and Greek journals were also constantly revisited to keep up with the latest publications and advances in the field. Based on this background and on the research goal and objectives outlined in section 4.1 above, the first research aim was generated as following:

1. Examine Greek primary school teachers'

   ➢ knowledge base and understandings of issues around TLD and language difficulties
   ➢ ability to successfully identify *children with language difficulties* in mainstream provision and to accurately describe their profiles of need
   ➢ instructional practices to scaffold language learning and the extent to which they incorporate particularities of the Greek language
   ➢ attitudes towards the inclusion of *children with language difficulties* attending mainstream provision

 Based on the literature review and on the pilot study, it was anticipated that Greek teachers would have gaps in their knowledge of language related issues which could compromise their ability to correctly identify *children with language difficulties* and to accurately profile their needs. Therefore, a second research goal emerged. Its purpose was to elaborate further on Greek teachers' knowledge base on language difficulties and on their readiness to meet the individual needs of children with language problems by

   ➢ profiling the strengths and needs of individual pupils identified by their teachers as experiencing language problems

   ➢ comparing those profiles of need with the profiles of typically developing language peers identified by teachers and validating teachers' estimations

   ➢ testing teachers' breadth of understanding of   the   impact of language problems on the academic and social functioning of *children with language difficulties*

4.3 Research design

4.3.1 A Mixed Methods Research Design

The present study adopted a Mixed Methods (MM) research approach (Creswell, 2003). Mixed methods research comprises a rapidly emerging research paradigm (Collins and O'Cathain, 2009) which, nevertheless, has not been followed to a similar degree by researchers in SE compared to other disciplines. Taking into consideration, though, that educational phenomena – as for instance, the nature of teaching and learning- are usually too complicated to be explored based on one research approach, then a combination of qualitative and quantitative research tools can support stronger scientific inferences than when either is employed in isolation. Thus, a MM research design provides a pluralistic, inclusive and complementary approach to a phenomenon and leads to more breadth and depth of understanding of this phenomenon (Klingner and Boardman, 2011).

There are, however, limitations in the use of a MM research approach. Those primarily include practical roadblocks for researchers (e.g. time, resources, effort to organize and implement two research approaches) and more importantly, lack of explicit conceptualization of the rationale for and purpose of combining quantitative (QUAN) and qualitative (QUAL) approaches which could guide researchers and could 'facilitate the design and implementation of methodologically strong studies in special education' (Collins et al., 2006b, p. 69). Based on that, this thesis followed a line of explicit methodological design guided by the current MM literature. Thus, the following sections explicate in detail the rationale for and the purpose of mixing QUAN and QUAL approaches in the present study. Issues of methodology are also presented in detail and are operationalized in the context of this study.

Mixed Methods approaches represent research that involves collecting, analyzing and interpreting QUAN and QUAL data in a single study or in a series of studies that investigate the same underlying phenomenon (Leech and Onwuegbuzie, 2009). Thus, MM approaches rely on the mixing of cross-paradigmatic methods -that is, of various combinations of QUAL and QUAN methods (Morse, 2010)- and therefore use systematic multiple ways to investigate a phenomenon. Maxwell (2010, p. 478)

addresses MM research as 'the systematic use of both ways of thinking', as a creation of a dialogue between different ways of seeing, interpreting and knowing and that, he claims, is what is most distinctive of and valuable in this type of research. In turn, this combination of methods, may likely provide superior answers to research questions or sets of research questions(Johnson et al., 2005). By corollary, MM studies may yield deeper insights than if the investigation were to follow a monostrand approach (Tashakkori and Teddie, 2003).Taking it further, Hesse-Biber (2010), considers the use of QUAL and QUAN perspectives in a study as promoting social transformation, social change and social justice. The author calls the need for data, grounded in individuals' lived experiences and, at the same time, situated in a macrocontext, as the much-needed 'dual-perspective' on the social world 'that uses words and numbers to convey their findings to social policy makers and in addition seeks to uncover new knowledge that is critical to those whose lives have been disempowered' (Hesse-Biber, 2010, p. 467). Based on the above, the principal reasons for choosing a MM approach for the study in hand involved the fact that one data source would be insufficient for a comprehensive investigation of a complex phenomenon for which no previous data existed and hence complementary data sets were needed, exploratory results needed to be further examined and the phenomenon needed to be addressed through multiple phases of research that included multiple types of methods (Creswell and Plano Clark, 2011; Tashakkori and Teddie, 2003). More specific reasons, however, also included the following:

a) A MM design allowed for a range of confirmatory and exploratory questions to be addressed simultaneously with both QUAL and QUAN approaches and this provided the opportunity for a greater assortment of divergent views (Teddie and Tashakkori, 2006; 2009). This diverse testing added to the credibility of research findings because if similar results for any given phenomenon/theory are produced by two different research routes, then the phenomenon/theory is more likely to be what it portends to be (Miller and Gatta, 2006). Hence, a MM design served both the first phase of this thesis with the collection of QUAL data for exploratory purposes and the second phase with the collection of QUAN data for further

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elaboration purposes. It was predicted that the combination of those complementary data sets would result in a greater variety of views and perspectives on the issue under investigation and this in turn would lead to stronger inferences.

b) By combining the various elements of research (methods, data sources, analysis procedures), a MM design can provide a deeper understanding of the examined behaviour or a better idea of the meaning behind what is occurring and can include people's views in the design by giving a voice to everyone involved in the behaviour being examined (Leech & Onwuegbuzie, 2009). This dimension was critical because-as mentioned above- Greek studies in the field were sparse and in no case had they employed a combination of complementary data sets as did the present thesis. Therefore, a range of research elements and of views were necessary to portray Greek teachers' understanding of issues around language development and the daily challenges faced by *children with language difficulties.*

4.4 Planning stage of the study

4.4.1 A sequential research approach- Sequential Exploratory design.
Based on the rationale exemplified above, the study followed a sequential and not a concurrent research design (i.e. conduct research phases simultaneously). The chosen design was a Sequential Exploratory Design (SED) (Creswell, 2003) for two key reasons. First, exploratory designs are most useful when researchers want to generalize, assess, or test qualitative results to see if they can be generalized to a sample and a population (Creswell and Plano Clark, 2011). As previously mentioned, this was the main purpose of the QUAN strand which followed the QUAL strand. Second, the exploratory design served research purposes more effectively because there was time available to conduct two separate phases, there was absence of a previous relevant instrument and a number of questions emerged from the qualitative phase which could not be answered with qualitative data (e.g. subject knowledge on specific linguistic items testing typical and atypical language development in Years 1, 2 and 3 of primary education, specific instructional

strategies used by teachers to support the needs of *children with language difficulties* in mainstream classes)

Exploratory designs can either place emphasis on the qualitative or the quantitative strand of the study depending on whether they aim to develop a theory (theory-development variant) or a survey instrument (instrument-development variant) (Creswell and Plano Clark, 2011).The present thesis prioritized the QUAN strand and the qualitative phase then played a secondary role aiming to introduce emergent themes and to gather information to build the questionnaire. Furthermore, in terms of the questionnaire results, it was anticipated that those would generalize to the population and therefore make the strongest contribution to the originality of the study as there were no previous large scale studies examining Greek teachers' knowledge and understanding of issues around language development. The subsequent QUAN third phase -which elaborated more on Greek teachers' subject knowledge of language development by juxtaposing their evaluations of the strengths and weaknesses of children designated by them as having language problems with the results of children's formal assessment, also added to the originality of the present study and was a further reason for prioritizing the QUAN strand.

Interviews

Interviews were conducted for the QUAL strand. Apart from serving the initial exploratory phase of the study, interviews were chosen as they best served the theoretical model of the thesis, i.e. the social constructivism. That is because they allow the interviewer to go deeper into the motivations of respondents and their reasons for responding as they do and this was necessary in order to investigate the underlying phenomenon.

Hesse-Biber (2010) sees the use of the individuals' lived experiences in qualitative approaches to MM practice as a means to understand social phenomena and by corollary to promote beneficial social transformation and greater social justice. In that sense, interviews with stakeholders warrant sustained fieldwork engagement and hence get closer to participants in a way that one-shot surveys or the secondary

analysis of administrative data sets do not (Fielding, 2012). A second reason was that interviews could provide plausible explanations for responses to questionnaire items and for children's performances in formal assessment as well as ideas for fine-tuning practice.

Questionnaire

For the first QUAN strand, a questionnaire was designed and administered. When large geographic areas are targeted, questionnaires are the most practical and convenient research instruments due to the economy of their design, the rapid turnaround in data collection and the fact that they are a relatively inexpensive method of data collection. They also exert less pressure on respondents for an immediate answer, they are anonymous and thus confidentiality is assured (Cohen, 2000; Gillham, 2007; Robson, 2002). Questionnaires also yield a high amount of data standardization, are easier to analyze statistically with statistical software packages and hence provide reliable quantitative results. Further, as one of the research questions was to describe teachers' practice regarding language development and ways to support language needs, it was important that the presence of the researcher or that the researcher's own opinions did not influence the respondents to answer questions in a certain manner. Thus, the use of a questionnaire eliminated interviewer's bias (Robson, 2002).

For the final QUAN strand involving a formal assessment process, two standardised tests and a teachers' checklist were administered. The rationale for those choices was presented previously in Section 2.6.1.

4.4.2 Sampling decisions prior to conducting MM research

The theoretical perspective for this thesis was social constructivism (exemplified later in Section 4.6). As this was an original study within the Greek educational system, various perceptions and interpretations of the phenomenon under investigation needed to be captured. Therefore, the three diverse research phases listed above required three different samples of participants. Thus, for the qual→quan→quan sequential design of the present thesis, a purposive→random→purposive sample model was adopted. Teddlie and Yu (2007)

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stress the importance for MM researchers to describe their sampling strategies in enough detail so that other investigators can understand or replicate the process in future studies. However, one of the most crucial issues that the researcher needed to address before embarking on the data collection process was the issue of the sample representativeness of the whole population under investigation. Thus, a number of steps had to be taken beforehand for sampling choices in SED (Creswell, 2013) that involved three important parameters namely, sample size (i.e. deciding on the number of participants to select, sample scheme (i.e. how to select them and deciding on whether the samples will be QUAL, QUAN or both and sample design (i.e. their hierarchy in the sample). The following sections present the details and rationale for those specific sampling choices.

Sample size

The choice of sample size is important as it determines the extent to which a researcher can generalize findings to the population from where the sample was drawn (Onwuegbuzie and Leech, 2005). Typically, a MM study includes multiple samples that vary in size from a small number of cases to a large number of units. Based on sampling guidelines by Teddie and Yu (2007) and Yin (2006) , two different types of sample sizes were combined in this MM study: a larger QUAN sample based on well defined populations and a carefully selected smaller QUAL sample based on purposive sampling frames. The sample size in the QUAN strand needed to be large enough to detect statistically significant differences or relationships whereas the QUAL sample size should not be so small as to fail to reach data saturation, theoretical saturation (this refers specifically to the development of grounded theory) (Guest, Bunce and Johnson, 2006) or informational redundancy or so large as to make it practically difficult to undertake a deep, case-oriented analysis (Onwuegbuzie and Collins, 2007; Onwuegbuzie and Leech, 2007).

Prior to conducting the research for this thesis, the size of the qualitative sample (interview participants) was chosen based on sampling guidelines for qualitative research provided by Guest, Bunce and Johnson (2006). The authors propose that a sample of 12 participants is likely to be sufficient if the goal is to describe a shared

perception, belief or behaviour among a relatively homogeneous group. Onwuegbuzie and Collins (2007) further proclaim a minimum of 3 participants per subgroup in nested sampling designs (see paragraph on Sampling design, p. 133). Thus, 18 Greek educators were selected; 14 mainstream teachers, 3 special teachers and 1 educational counsellor as there is only one educational counsellor in each educational authority. Qualitative data collection continued until additional cases did not generate any fresh information that could be included into the thematic categories and thereby information redundancy and data and theoretical saturation were reached (Guest et al., 2006). This process was monitored through a list of themes corresponding to each interview topic that the researcher checked each time they were brought up by a participant.

 For the questionnaire respondents, the goal was to obtain a large enough sample to detect statistically significant relationships or differences and to reduce sampling errors (i.e. differences between the sample statistics and the underlying population). Thus, the questionnaire aimed at a large sample as the larger the sample size, the more likely it would be that the results truly reflected the population from were the sample was drawn. Indeed, Diamond and Jeferries (2001) emphasize that as sample size increases, the margin of error around a mean or a percentage gets smaller and thus results are more precise and more sensitive to detect differences that are not due to chance .Additionally, the pilot study established heterogeneity in teachers' views and, according to Robson (2000), this indicates the need for a larger sample in the actual study. Optimally, this sample decision is based upon a power analysis, which is calculated to establish the degree of power necessary to reject the null hypothesis, when it is false (Collins, 2012). Therefore, a power analysis was conducted and indicated that, with 0.80 statistical power at the 0.05 level of significance, a minimum of 98 participants were needed in order for the questionnaire to detect statistically significant differences.

Finally, the third research phase employed a purposive sample of children. The size of purposive samples is typically small, usually comprising 30 or fewer cases. However, the specific sample size depends on the research questions (Robson, 2002). Therefore, a power analysis was again conducted to estimate the sample size

for the children participating in this stage. It indicated that, for a 0.80 statistical power at the 0.05 level of significance, a minimum of 23 subjects per group were needed to yield a statistically significant effect.

Sampling scheme

The sampling schemes employed for this study were both QUAL and QUAN. The combination of different sampling schemes aimed at increasing 'the likelihood of generating findings that were both rich in content and inclusive in scope' (Kemper, Stringfield and Teddlie, 2003, p. 292).Choice of those sampling schemes, nevertheless, was not random. According to Onwuegbuzie and Collins (2007), sampling in MM research depends on the type of generalization of a study which can either be statistical or analytic; statistical generalization relates to representativeness whereas analytic generalization relates to conceptual power. The interview based QUAL component related to analytic generalization. In this case, the researcher's goal was to obtain insights into a phenomenon and to maximize understanding of Greek teachers' current views. Therefore, a non-random (non-probability) sample of information rich individuals was purposefully selected as, according to Teddlie and Yu (2007), researchers use purposive sampling when they want to generate a wealth of detail from a few cases and therefore select cases that are information rich in regard to the research questions and focus on the depth of information that can be generated by individual cases.

Interview sample

Based on the above, the interview sample was drawn from two urban educational authorities in east and north-east Athens. The participants were chosen on the basis of the demographic and professional characteristics of the workforce of primary teachers in Greece at the time and on three significant parameters which emerged from the literature review; teaching experience, training, mainstream and special provision. To assure sample representativeness, the chosen participants covered firstly a range of teaching ages of older and newly qualified teachers to account for the variability of teaching experience, secondly a range of different qualifications so as to account for the variability of knowledge and training and thirdly teachers

from mainstream and special provision in order to represent the two main types of provision in the Greek educational context. The inclusion of an educational counsellor in the sample was deemed necessary as counsellors have a regular presence in primary schools where they provide advice on several kinds of educational problems that school and teachers come across in daily practice.

Questionnaire sample

The questionnaire based QUAN strand in the present thesis aimed at statistical generalization. A statistical generalization is defined as 'the degree that findings and inferences can be applied to the underlying population that served as the source for the selection of the sample' (Collins, 2012, p. 1) Because statistical generalization refers to representativeness, then a random (probability) sample was chosen as the most suitable one to generalize findings to the population of Greek teachers. Probability samples involve randomly selected units or cases so that the probability of inclusion for every member of the population can be determined (Teddlie and Yu, 2007).For this study, in particular, a simple random sample (Teddie and Tashakkori, 2009) was used because simple random samples present each participant with an equal chance of being included in the sample and the probability of a participant being selected is not affected by the selection of other participants and also because it allows results to be generalized from the sample to the population within a computable margin of error (Robson, 2002; Teddie and Tashakkori, 2009).

 To assure representativeness, the questionnaire sample targeted a large educational authority in the north-east of Attica comprised 25 primary schools. The sample presented a similar demographic picture to the interviews sample described above. Thus, the present cohort was also representative of the current workforce of Greek teachers and in accordance with the ratio reported by the National Statistical Service of Greece (NSS) (1991/92, 1993/1993) (Vlachou, 2006; Zoniou-Sideri, 2009). More than three-quarters of the participants were general teachers and the remaining were special teachers working in support rooms. The disproportionate number of respondents in the two subgroups reflected the overall ratio of special teachers' placements in primary schools (approximately one in every school).

Female teachers were also overrepresented in the sample compared to male teachers but that also reflected the current proportion of approximately 70% women and 30% men working in primary education (Centre for the Development of Educational Policy, 2012-2013).

Sample of children

The third research phase employed a purposive sample of children as previously mentioned. The broader aims for the third phase of this study have to do with the profiling of the nonverbal and linguistic abilities of children designated as language impaired by their teachers. Again, the aim here was analytic generalization as this type of generalization examines how selected cases fit with general constructs of a wider theory. Therefore, a multiple case sample was utilized to obtain a continuum of cases relative to the phenomenon under investigation (Collins, 2012). According to Onwuegbuzie and Leech (2007) such cases constitute a subset of elite informants who are representative of a sample and the findings are generalized only to that particular sample. Purposive sampling techniques were then used in the study to find cases that were characteristic or typical on a dimension of interest. The dimension of interest was the profiling of language needs of children designated as language impaired by their teachers and since no previous studies on this topic existed, the children were selected purposefully to assure the highest possible representativeness or comparability (Teddie and Yu, 2007). The selection of children was done by their teachers as purposive samples are often selected based on the expert judgement of researchers or informants. Notwithstanding, general guidelines for inclusion criteria, had previously been explained to the teachers.

The target research group [Language Impaired (LI) children] were Year 1, Year 2 and Year 3 students of primary education (aged 6-9 years old) experiencing language difficulties. The advantage of choosing a mainstream sample for the present research was that it reduced potential impact of referral bias (Berkson's bias) that is evident in clinically referred samples (Norbury et al., 2016). Therefore, the study measured the potential functional impact of language difficulties in a representative sample of Greek students. The reasons why the particular year groups were chosen were based both on the literature review and on the implications of the

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pilot questionnaire and of the main questionnaire survey. First, as already presented in Chapter 2, language difficulties are more prevalent in younger than in older children (Bishop, 1994; Bishop and McDonald, 2009; Conti-Ramsden and Hesketh, 2003; Law et al., 2000b; Leonard, 1998). The literature also suggests that language difficulties in some children may be temporary and transient (Dockrell et al., 2012b) and therefore having chosen children in the upper classes of elementary school would have reduced the possibility of identifying early language problems. Additionally, children who may present other learning difficulties, such as dyslexia, were more likely to have been diagnosed by the ages of seven to nine and thus be excluded from this study.

Children included in the study were all indicated by their teachers. They were all Greek native speakers attending mainstream provision, were aged between 6 to 9 years and all fell within the following criteria as those were set out in the literature (Conti-Ramsden and Botting, 1999; Dockrell and Lindsay, 2001; Stark and Tallal, 1981):

➢ The child falls within the normal range of nonverbal cognitive measures

➢ There is a discrepancy between the child's language assessment and cognitive assessment

➢ There is no record of impaired hearing acuity, otitis media history, neurological impairment or psycho-emotional disorders

At the time of conducting the present study, there was lack of normative data for Greek speaking primary school children as no previous Greek studies existed which had assessed the linguistic competence either of *children with language difficulties* or of their typically developing language peers within the school setting. Hence, the children's performance was compared with children with TLD so as expectations of normal development were explicit (Dockrell, 2001; Law et al., 2000a).Thus, the researcher further recruited a comparison group of thirty children who developed language typically (TD children). They were also teacher nominated pupils attending Y1, Y2 and Y3.

Sampling design

After deciding on the sample scheme, another important criterion in sample selection in MM studies is the relationship of the qualitative and quantitative samples (Onwuegbuzie and Collins, 2007). The qualitative sample of interviewees and the quantitative sample of the questionnaire respondents had a nested relationship whereas the samples of the primary school children and of their teachers had a multilevel relationship (Kemper, Stringfield and Teddlie, 2003). The following sections explain those decisions.

Sampling design for the QUAL strand (interview participants)

As previously mentioned, the interviewees comprised a convenience sample with purposively chosen participants. Convenience sampling involves choosing settings, groups or individuals that are conveniently available and willing to participate in a study (Onwuegbuzie and Collins, 2007; Onwuegbuzie and Leech, 2007). In the present study, the 18 interview participants were chosen amongst a larger number of educators who had previously been colleagues of the researcher working as teachers in primary schools in Attica. According to Robson (2002, p. 265) a sensible use of convenience sampling has to do 'with getting a feeling for the issues involved or for piloting a proper sample survey' and therefore it was considered to be the most appropriate choice for this stage of the research. However, this does not mean selecting proper cases solely on the basis of availability. They also have to be selected on the basis of being able to provide rich data. Furthermore, researchers should be aware of potential pitfalls related to convenience sampling such as improper participant recruitment or limited sample representativeness which may result in biased data or may cause concern over the generalization of the results of a study (de Vaus, 2002; Teddlie and Yu, 2007). To overcome those challenges, the interview participants were purposively chosen and shared a nested relationship with the full sample of questionnaire respondents (Figure 4.1 below). The key reason for that was because nested sampling designs enable qualitative researchers to select key informants, that is, participants who are representative of a larger

population and who can potentially generate a significant part of a researcher's data. The more representative the key informants, the more likely the researcher is to obtain views that mirror those of the population of interest (Onwuegbuzie and Leech, 2007). A subsequent reason for the choice of a nested sampling design was that it also served mixing purposes in the present study, as it comprised sub-groups of cases, each representing a sub-sample of the full sample. This was adopted here with the specific selection of mainstream and special teachers and of their educational counsellor from the full research population so as to obtain a sub-sample of cases from which further data could be extracted. Such data helped the researcher to develop emergent themes, to refine ideas and to identify conceptual boundaries (Charmaz, 2000). Collins, Onwuegbuzie and Sutton (2006b) alternatively refer to 'participant enrichment' as the mixing of quantitative and qualitative techniques for the rationale of optimizing the sample in a MM study and consequently of enriching data. Finally, an additional reason was that nested sampling designs can be employed in constructivist studies- as is the present QUAL strand- because the emergent themes they develop upon, focus on views, attitudes, beliefs, values and assumptions of individuals rather than on facts and on describing behaviour. The following figure illustrates the nested relationship between the qualitative and the quantitative samples of teachers (Onwuegbuzie and Leech, 2007)
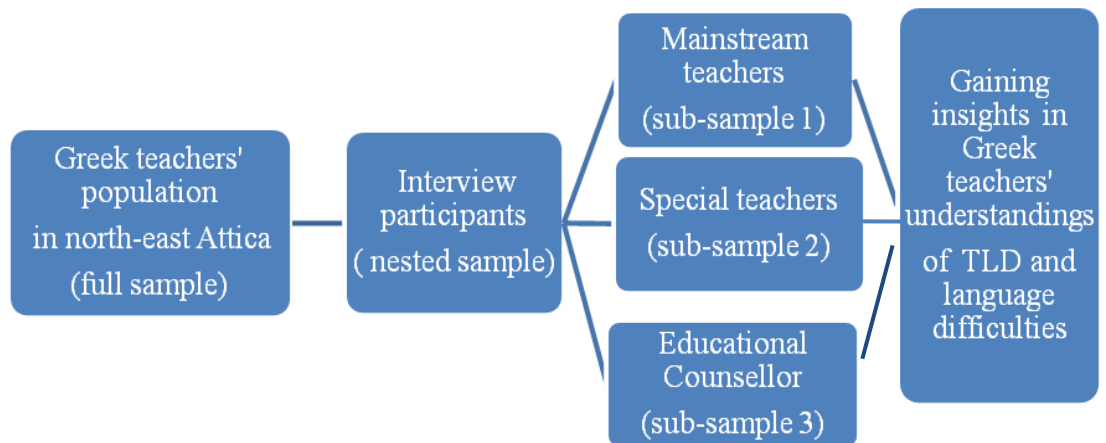
Figure 4.1 Nested sampling design for the QUAL phase.

Sampling design for the QUAN strand (Questionnaire participants and children)

Kemperet al, (2003) argue that multilevel sampling in MM studies occurs when probability and purposive sampling techniques are used on different levels of the study. The two samples used in the QUAN strand were extracted from different levels of the research population and hence had a multilevel relationship (Figure 4.2).The first level comprised a random sample of Greek primary school teachers whereas the second level involved a number of purposively chosen students of those teachers. As with the nested sampling design of the interviewee teachers and of the questionnaire respondents, the multilevel sample design in the final research stage also constituted a mixing point of the study.
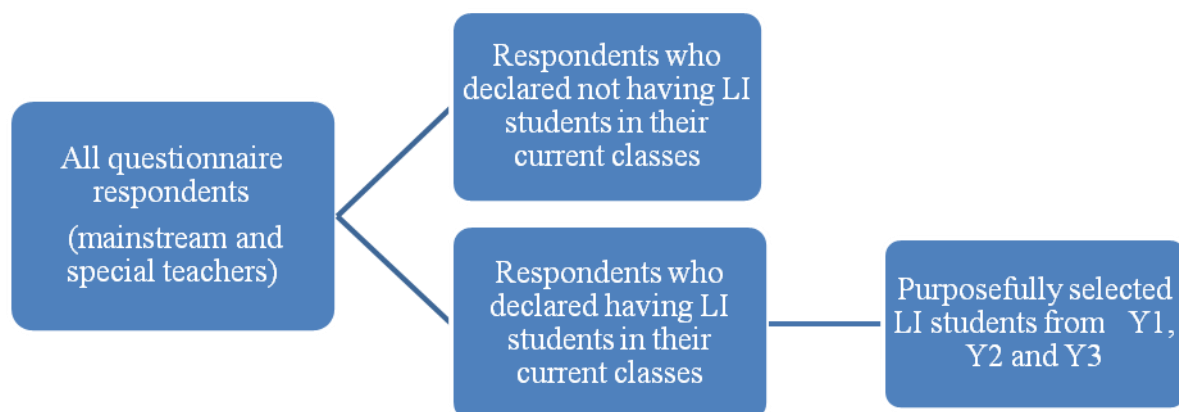
Figure 4.2. Multilevel sampling design for the QUAN phase.

4.4.3 Points of integration among phases of the study based on the SED

Data integration is a crucial element in MM analysis and conceptualization (Fielding, 2012). According to the same author, 'integration is really the heart of the whole mixed methods exercise because the purpose of mixing methods is to get information from multiple sources and so the issues in bringing together the information are crucial. It is not so much the *when* (italics in original) integration occurs but additionally *what types* of data are being integrated and *how* we integrate them. Decisions on these things depend on the reasons for mixing methods' (Fielding, 2012, p. 127). However, mixing methods requires a clear rationale and a considered research design to avoid a fruitless combination of different methodologies and interpretative approaches which, albeit extending the scope and depth of our understanding of a phenomenon, do not necessarily enhance validity (Denzin and Lincoln, 2005; Fielding and Schreier, 2001). The following paragraphs present these issues in relation to the present study.

First, the conceptual framework for a MM research provided the clear rationale for resorting to two complementary data collection methods at the initial designing stage of this study. Similarly, the two purposes of development and of complementarity provided an overall frameworkand a considered research design for mixing QUAL and QUAN research methods. However, Bryman (2006) argues that MM studies may be based on multiple reasons for mixing methods and that

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additional reasons may arise during the course of the study and therefore, researchers need to be responsive to new insights when analyzing and interpreting their data. Specific reasons for mixing QUAL and QUAN approaches in the study at hand, were either obvious from the beginning or arose later during the course of the study. Bryman (2006) also proposes a list of 16 detailed reasons for mixing QUAL and QUAN methods. Three of those were also applicable to the present thesis as explained below.

The study's sequential design determined a dependent and interactive relationship between the research phases and allowed for subsequent research strands to be built on previous ones. Thus, the design and conduct of a strand depended on the results from previous strands and data from one strand was further explored in a subsequent strand (Onwuegbuzie and Collins, 2007).As Teddie and Tashakkori (2009) and Teddie and Yu (2007) argue, in sequential mixed designs the conclusions, based on the results of the first stage, can lead to the formulation of design components for the next stage which in turn is conducted either to confirm or refute inferences from the first phase or to provide further explanation for its findings. Bryman (2006) also proposes confirming and discovering as reasons for mixing methods, by using qualitative data to generate hypotheses and by using quantitative research to test them within a single project. Thus, the dearth of qualitative data on Greek teachers' understandings of language related issues led to the design and implementation of the first qualitative phase with the interviews. The interviews were then an initial exploration of a complex issue for which no previous qualitative data existed and were utilized so as to set the initial research scene and as as a means 'to get a subjugated knowledge that had not been explored in previous research' Hesse-Biber (2010, p. 463).

Following the first phase, results and implications of the interview findings led to the development of the questionnaire which tested a range of variables related to language development, language difficulties and teaching approaches. The interview findings partly informed its design, items and scope as -according to Creswell (2003)- in a sequential approach, themes and specific statements from participants can be obtained in an initial qualitative data collection phase while in

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the next phase, these statements can be used as specific items and themes for scales so as to create a survey instrument that is partly grounded in the views of the participants. Bryman (2006) also refers to this process as instrument development that is, employing qualitative research in order to inform the wording, comprehensiveness and design of a quantitative instrument. For example, the specific wording of questions in the questionnaire and the narrowing down of the questionnaire items in only three school years were parameters of the questionnaire based on the analysis of the interviews. Additionally, conceptual issues arose as there was the need to provide teachers with clear identification criteria for *children with language difficulties*, the changing of the research target group from SLI children in primary provision to *children with language difficulties* and the exclusion of special schools in the questionnaire survey. Finally, qualitative data were quantified -where needed- as an added process of data integration. This, according to Sandelowski, Voils and Knafl (2009) enables the fusion and merger of data sets, not merely their juxtaposition with each other or parallel use. Hence, QUAL data from the interviews were put into a form amenable to statistical assimilation with the quantitative data gathered through the subsequent questionnaire.

The collection and analysis of QUAL data which built on the collection and analysis of QUAN data, resulted in a combination of methods which produced 'a deeper or differently nuanced interpretation of a phenomenon' (Miller and Gatta, 2006, p. 596). Indeed, the second QUAN phase was therefore conducted with the aim of elaborating further on the interview findings and of examining their generalizability in the population from where the sample was drawn. According to Creswell (2003), the purpose of a survey is to generalize from a sample to a population so that inferences can be made about some characteristic, attitude or behaviour of a population. Similarly, Creswell and Plano Clark (2011) document that the gathering of additional quantitative data is a fruitful strategy to augment and enhance qualitative findings and vice versa as the combination of closed-ended questionnaires and QUAL interviews allows for the strength of each strategy to be combined in a complementary manner with the strengths of the other. Thus, on the one hand, the QUAN questionnaire was used across a broad range of survey topics

in order to produce large numbers of responses while on the other hand, the QUAL interviews were conducted with a relatively small number of participants in order to generate in-depth information for the issue under investigation (Teddie and Tashakkori, 2009). Additionally, the nested sampling relationship (explained in detail in Section 4.4.2) between the interviewees and the questionnaire respondents was yet another point of integration in the study Finally, misconceptions and unexpected teachers' responses to questionnaire items examining identification criteria, to other items examining the strengths and weaknesses of *children with language difficulties*, and contradictions or discontinuities on teachers' views about primary school children's typical language development, led to a third QUAN data collection phase. Bryman (2006) also refers to unexpected results as an integration point of two research methods which triggers further research; that is the fruitful combination of research methods, when one strand generates surprising results that could be understood by employing the other. Hence, the third research phase elaborated further on Greek teachers' understandings of language related issues and on their ability to accurately document the nature of language difficulties by profiling the strengths and needs of individual pupils designated as language impaired by their teachers. This was done with the use of formal tests and of a teacher's checklist. Table 4.1 illustrates the steps of the study's sequential exploratory design, the mixing points and how one research step led to the other.

Table 4.1	Research steps of the study's Sequential Exploratory design
Step 1	Design and Implementation of the Qualitative Strand ➢ An initial qualitative approach to the study was determined. Qualitative research questions were stated based on the literature review and the pilot study results. ➢ Ethical approval was obtained ➢ The qualitative sample was identified and conducted (18 participants) –nested sampling relationship with the questionnaire sample (mixing of sampling schemes) ➢ Open-ended data were collected based on interview protocols ➢ Qualitative data were analyzed using an inductive thematic approach. ➢ Qualitative results were summarized in groups and were quantified where needed. Regularities or peculiarities were discerned. Qualitative questions were answered and implications for the next phase were considered. Interview findings informed the design of the second phase.
Step 2	Strategies used to build on the Qualitative Results (1st point of interface in mixing methods) ➢ Quantitative research questions were determined based on the literature review and in light of the interview findings. The mixed methods questions were refined. Emerged hypotheses were stated. ➢ Selection of participants for the quantitative study was determined. ➢ Based on the literature review and in light of the interview findings, a survey questionnaire with both closed and open-ended items was developed and pilot tested.
Step 3	Design and Implementation of the Quantitative Strand (questionnaire survey) ➢ Quantitative research questions and hypotheses were revisited in light of the pilot study findings. ➢ The educational authorities and schools were contacted. Permissions were gained. ➢ A quantitative sample was selected to generalize and test the qualitative results and to provide quantitative information that could not be gathered with qualitative methods

	➢ Quantitative data were analyzed using descriptive and inferential statistics to answer the quantitative and mixed methods research questions. Quantitative results were summarized. ➢ Qualitative results of the questionnaire were summarized in groups and quantified.
Step 4	Design and Implementation of the Quantitative Strand (children's tests) (2nd point of interface in mixing methods) ➢ Unexpected teachers' responses to questionnaire items and contradictions on their views about children's language development and language difficulties led to further quantitative questions and informed the design of a third research phase. ➢ Specific quantitative questions on children's linguistic profiles and language needs were determined. ➢ Two purposeful samples of children were selected; a research group and a comparison group. Multilevel relationship with the questionnaire sample (mixing of sampling schemes). Parental permissions were obtained. ➢ Quantitative data were selected with a battery of tests which covered the research questions. ➢ Data were analyzed with descriptive and inferential statistics and effect sizes were calculated to answer the research questions ➢ Quantitative results for the profiles of participating children were summarized
Step 5	Interpret and connect results (3rd point of interface in mixing methods) ➢ Salient variables and peculiarities in the qualitative results were refined in the light of the questionnaire quantitative results. ➢ Summary of what ways and to what extent the quantitative results generalize or expand on the initial qualitative findings. ➢ Unexpected findings in the questionnaire items and contradictions of teachers' views were revisited and enlightened with the quantitative results of the children's tests. ➢ Combined interpretations/ conclusions

4.5 Issues of inference quality

The following sections explicate overall issues of inference quality and of validity in MM studies and operationalise those in the context of the present research design. The reliability and validity of the questionnaire designed for the purpose of the study and issues of data quality for the interviews protocol are also presented.

4.5.1 Quality assurance and validity in Mixed Methods research

Quality assurance and validity in mixed methods designs have long been in the centre of methodological debates by mixed methods researchers (Creswell and Plano Clark, 2011; Dellinger and Leech, 2007; Onwuegbuzie and Johnson, 2006; Tashakkori and Creswell, 2007; Tashakkori and Teddie, 2003; Teddie and Tashakkori, 2009). Tashakkori and Teddie (2003) introduced the term *inference quality* as a criterion to evaluate the validity and transferability of the generated meta-inferences in a MM study. Inference quality reflects the accuracy with which researchers draw conclusions inductively and deductively from a MM study and this accuracy is characterized by meaningful integration of quantitative and qualitative methods whereas meta-inferences reflect generalizable inferences that are derived from the results of the QUAL and QUAN strands of a MM study. However, ensuring quality in MM designs can be an especially challenging task because QUAN and QUAL results need to be integrated so as to produce credible meta-inferences (Ivankova, 2014). Tashakkori and Teddie (2003) also emphasize that researchers should adhere to rigorous standards to ensure inference credibility and validity. In sequential mixed methods designs, in particular, in which one strand builds on another, the quality of previous inferences may affect the quality of following inferences. Furthermore, threats to validity can occur at any stage of a MM study (e.g. data collection phase, data analysis and interpretation phase) and can compromise the overall quality of the meta-inferences (Creswell and Plano Clark, 2011).

Tashakkori and Teddie (2003) proposed using two sets of standards to ensure inference quality in MM studies, -design quality, i.e. standards to test methodological rigour of a MM design and interpretive rigor- i.e. standards to test

the accuracy of the conclusions drawn. Later, Teddie and Tashakkori (2009) proposed an integrative framework for inference quality in MM research. The framework identified four criteria that helped ensure quality in the design of a MM study; design suitability to answer the research questions, design fidelity of the study and methodological rigour, within design consistency and analytic adequacy. For interpretive rigour of the meta-inferences, the framework proposed five criteria; interpretive consistency, theoretical consistency, interpretive agreement, efficacy and correspondence. Among other models for evaluating the quality of a MM research design, -indicatively Dellinger and Leech (2007), Onwuegbuzie and Johnson (2006) and Ivankova (2014),- the Integrative Framework proposed by Teddie and Tashakkori (2009) was adopted for the present study. One particular strength of the Integrated Framework and a key reason for its adoption in this study, was that it is based on an important distinction between evaluating the quality of the design and the quality of inferences, interpretations and conclusions. Thus, the two tenets of this model, as well as the sequential nature of the present study, allowed the researcher to assess separately inconsistencies in the design of the QUAL and QUAN strand and then assess the degree to which the meta-inferences resulting from the entire study were credible. Tables 4.2 and 4.3 provide an account of the criteria for the design quality and the inference rigour for the present MM study respectively.

Table 4.2 Application of the Interpretive Framework for Inference Quality (Design Quality)

Aspect of quality	Research criterion	Indicator in study
Design Quality	Design suitability	Use of a sequential mixed methods design with QUAL and QUAN strands conducted in three phases; exploratory interviews, large scale survey and profiling of children's language needs
	Design fidelity	Interviews
		Measurement credibility (Creswell and Plano Clark, 2007; Teddie and Tashakkori, 2009): Multiple methods of data collection, Peer debriefing ,Thick description, Prolonged engagement, Pilot interviews, Diverse sample-nested relationship with the questionnaire sample
		Data dependability (Creswell and Plano Clark, 2007; Teddie and Tashakkori, 2009): Mixed methods study, Semi-structured format
		Survey
		Face Validity; Teachers' questionnaire did not reveal its intended purpose, Survey tested the generalization of interview findings
		Construct validity; Design based on multiple data collection processes of three complementary data collection phases with one study strand building on another; Judgemental validation (Teddie and Tashakkori, 2009) with continuous refinement of the questionnaire items with the contribution of experts, Empirical validation (Teddie and Tashakkori, 2009) with two pilot studies, an initial one and a following one in the light of findings and of issues that emerged from the first one
		Content validity : Survey questionnaire was built on the interview findings/relevant literature/pilot study; Both open-ended and closed questions

	Reliability: Testing and retesting of the questionnaire items with two pilot studies; Anonymous questionnaire
	Generalization: Large scale sample; Representative sample of Greek teachers
	Children's test
	DVIQ: Greek language test that has been used previously in numerous Greek studies; DVIQ test components fully covered all areas of language development examined in the questionnaire
	PCM : Standardised test ;Non-verbal test and hence culturally unbiased
	SDQ: Standardized test used in numerous Greek studies; Suitable for profiling children's emotional, behavioural and social conduct difficulties
Within-design consistency	Adopt a sequential exploratory design with previous phases informing the development of ensuing ones; Appropriate selection of random and purposive samples
Analytic adequacy	Interviews
	Thematic analysis; inductive approach; Data displays in QUAN forms
	Survey
	Questionnaire : Use of descriptive and of inferential statistics in SPSS ; Quantifying open-ended questions
	Children's tests: Use of descriptive and inferential statistics in SPSS
	Combined
	Combination of interviews, survey and children's tests findings for integrated analysis in results and discussion Chapters

Table 4.3 Application of the integrative framework for Inference Quality (Interpretive Rigour)

Interpetative Rigor	Interpretive consistency	Interviews Inter-rated reliability of more than 90% (18 interviews) Inferences made from interview data were consistent with findings
		Survey Inferences made from questionnaire data were consistent with findings
		Combined Results of the interviews and the questionnaire consistent with previous Greek studies e.g. lack of teachers' training, patchy knowledge on issues of language development, inflexible curriculum as a barrier to meet the needs of *children with language difficulties*
	Theoretical consistency	Not applicable
	Interpretive agreement	Transparency of research procedures, of sampling decisions, of statistical analyses and of coding frameworks so that other researchers are able to replicate the study or compare similarities with other studies
	Integrative efficacy	Meta-inferences were based on inferences made from the three research strands
	Interpretive correspondence	Conclusions and main findings correspond to the purpose of the study and the research questions

4.5.2 Interview protocol –Issues of data quality

The interviews explored language related issues and attitudes towards inclusion. They were first piloted with three teachers and adjusted accordingly. They comprised a semi-structured format with open-ended questions which were followed by probes for additional detail and clarification where necessary and to avoid time-consuming generalizations. This allowed both coverage of the main topics and an opportunity for respondents to expand on their particular experiences and thoughts. This was important as - based on the literature review - it was anticipated that Greek teachers would have differing personal choices, for instance, diverse patterns of interventions and of teaching approaches- and would not follow precisely the specific guidelines set out in the national curriculum (Appendix 3).

Overall, data quality in mixed methods studies is dependent upon the quality of the separate phase, in a way that if the QUAL and QUAN data are valid and credible, then the mixed study will also be valid and credible (Creswell and Plano Clark, 2011). Regarding the QUAL strand, there are two important determiners of data quality namely measurement credibility and data dependability (Creswell and Plano Clark, 2007; Teddie and Tashakkori, 2009). The first refers to whether the qualitative instrument used (e.g. interviews) truly captures what it is intended to as opposed to the researcher's own perceptions or something else entirely. The second refers to the consistency of a measurement over time, whether it can track variations across different qualitative contexts. Teddie and Tashakkori (2009) further suggest that in order to enhance both measurement credibility and data dependability, multiple mixed measures need to be utilized and this was followed in the present thesis.

However, there are a number of other strategies that can improve the quality of qualitative research measurements. For instance, data dependability can be enhanced with the use of structured interviews so that all respondents are asked the same questions in the same sequence. The interviews designed for this study were semi-structured and apart from minus wording and sequence differentiations in the course of the 18 interviews, the broader framework remained unaltered. Similarly, strategies used

to enhance credibility may include: 'peer debriefing' –where more than one researchers or professionals in the field examine the accuracy and validity of the measurement -, 'prolonged engagement' – where researchers spend an adequate amount of time in the field so as to familiarize themselves with the multiple and diverse perspectives of participants in a given field and 'thick description'-which involves writing detailed descriptions of the context and of the research setting so that it becomes feasible for other researchers to make comparisons with the different frameworks they are working on (Creswell, 2003; Teddie and Tashakkori, 2009).The present study adopted all three strategies. More specifically, the initial versions of the interview protocol were extensively discussed with another experienced teacher who had also been working in the same area for more than ten years and were then piloted with three teachers. Furthermore, the researcher had been working for seven years in primary schools in the same area as most of the 18 participants and that meant that there was a high degree of engagement and of familiarity with the educational setting and its particularities. Adhering to the third strategy, the literature review for this thesis provided detailed descriptions of the current educational context in Greece and of its particularities. Finally, another potential source of threat to validity is bias caused either by the characteristics of the participants or by their motives for taking part in a study   (participant bias) or by the substantive content of the questions (Cohen, 2000; Robson, 2002). The piloting of the interviews was an eliminating factor for the second threat. After feedback, potential sources of bias and leading or ambiguous questions were omitted or adjusted accordingly. To reduce participant biases, a diverse sample of teachers scattered in a large educational authority was employed. Figure 4.3 presents the steps taken to assure quality of data in the exploratory phase of the study.
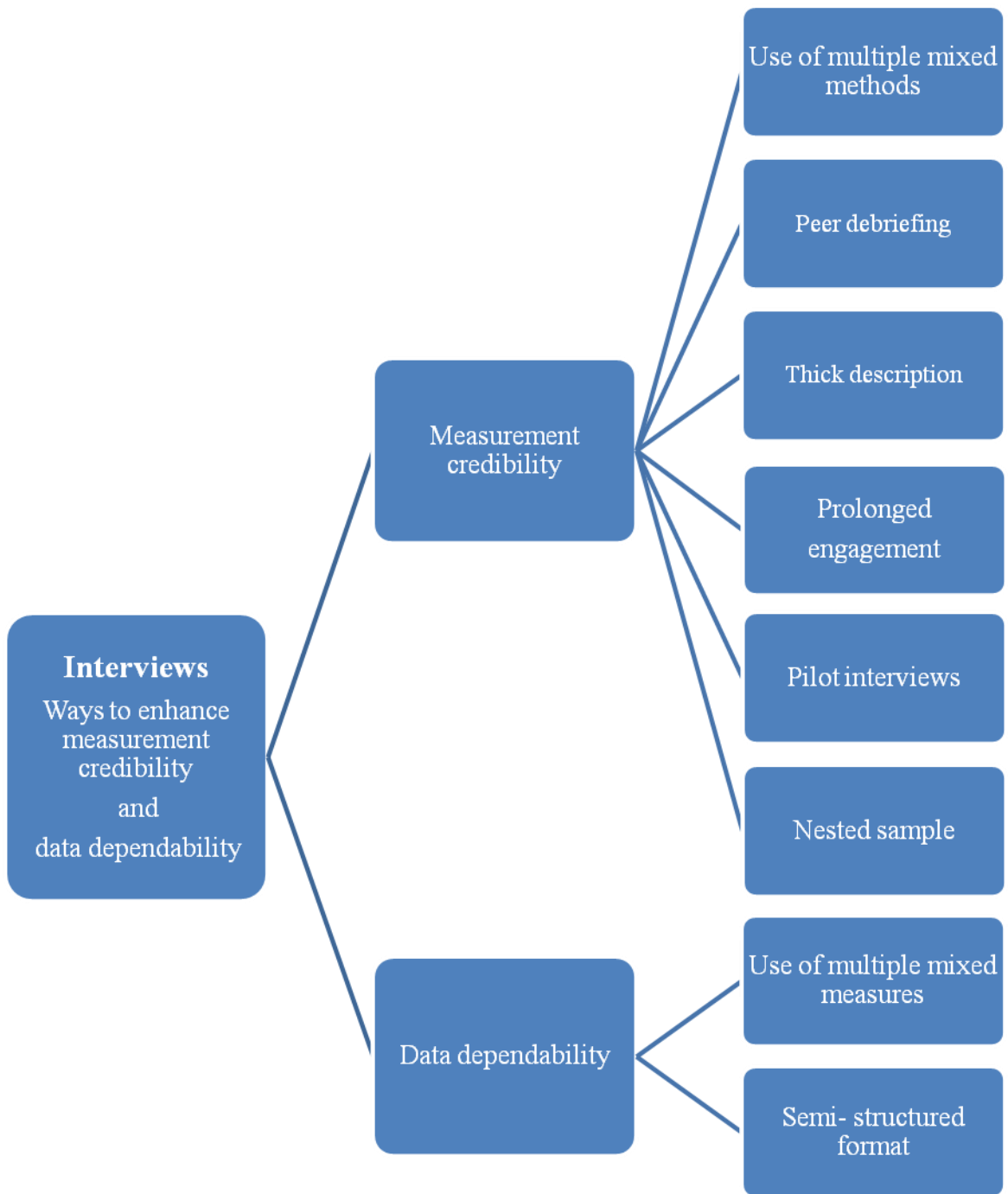
Figure 4.3 Ways adopted in the study to enhance data quality of interviews

4.5.3 Questionnaire – Design, Content and Issues of validity and reliability

4.5.3.1 Questionnaire design

For the questionnaire survey of this study, an original questionnaire was designed and used. The first step in designing a questionnaire is, according to Cohen, Manion and Morrison (2013), to clarify its general purpose and then translate it into a specific aim or set of aims. The purpose of the questionnaire at hand was to explore Greek teachers' understandings of TLD and of language difficulties. Then, developing a questionnaire, presupposes the translation of any concepts into a form that is measurable. However, operationalizing a questionnaire, that is taking the general purpose and turn it into concrete, researchable fields about which actual data can be gathered, cannot be an easy and straightforward process but rather one of continuous refinement (Cohen et al., 2013). It entails a process of moving from the broad to the specific, of identifying and itemizing subsidiary topics that relate to its general purpose. There are three main concerns involved in this procedure; clarifying concepts, developing indicators and evaluating them. Concepts are the terms that people use to convey meanings while indicators refer to the concrete measures used in survey instruments to investigate concepts (De Vaus, 2013). All three elements were an initial concern for the development of the main questionnaire. However, apart from the literature review, the Sequential Exploratory Design of the study also contributed to the clarification of the concepts of understanding of typical language development and of language difficulties based on the findings and implications of the exploratory phase conducted before the questionnaire survey. The associated domains of training, identification and prevalence of language difficulties, subject knowledge on language development and language difficulties and ways to support language needs were also identified and connected to the initial concepts. Finally, the domains were linked to a number of indicators in the form of 23 closed items. Figure 4.4 below illustrates the concepts, domains and indicators for the development of the questionnaire. In addition, the questionnaire was piloted more than once and continuous adaptations were made before it assumed its final form and its validity and reliability were also assured (Appendix 4).
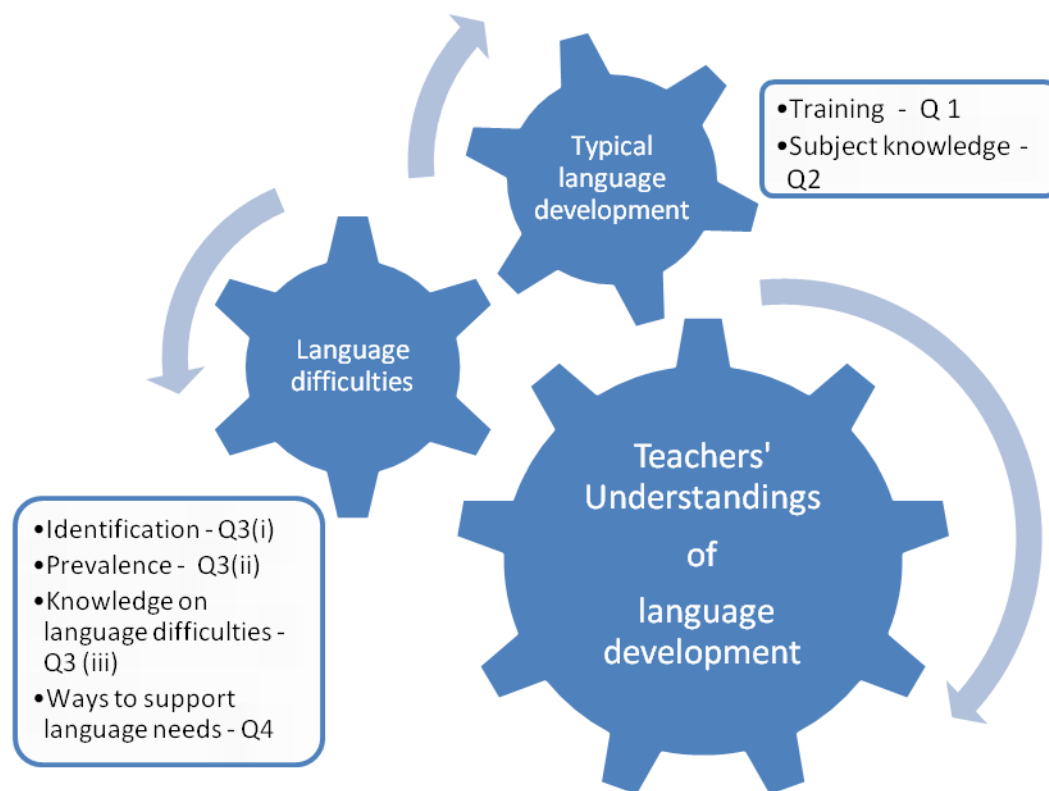
Figure 4.4 Concepts, domains and indicators for the development of the questionnaire

4.4.3.2 Questionnaire content.

Following the results of the pilot study, the final form of the main questionnaire was a much shorter version of the pilot study. The revised questionnaire covered two pages and was divided into four parts. The first part examined the respondents' level of training on issues around language development with a semi-structured question. The second and third parts included twenty-three mixed items. Nineteen items addressed Greek teachers' understandings of typical language development and of language difficulties for children aged 6 to 9 years old with statements that were either true or false based on the literature review. Four items targeted interventions and educational approaches to language teaching. In particular, items on typical language development examined teachers' knowledge base of aspects of the language such as vocabulary (item 1), morphology (items 4-6), syntax (items 7-9), speech intelligibility (item 10)

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and pragmatics (items 11-12). Items on language difficulties examined teachers' views of their impact on curriculum access (items 14-17), emotional development (items18-20), developmental norms (items 21-22) and significance of language input (item 23). There were also two items on vocabulary instruction (items 2 and 3). Vocabulary was the only aspect of the language system targeted with instructional approaches because there was strong evidence in the literature review of the contribution of the lexicon to language development and also because participants in the exploratory interviews placed vocabulary instruction higher than any other aspect of the language system in their hierarchy of interventions to enhance students' oracy skills. Therefore, vocabulary instruction was followed up with the questionnaire.

The response choices for all 23 items were 'Yes', 'No', 'Not sure/Don't know'. There was also space provided for comments. Both negative and positive items were used interchangeably so as to avoid an acquiescent response set (De Vaus, 2013; Gillham, 2007). The use of those alternative responses was considered an exhaustive list for the purposes of the questionnaire and at the same time it prevented biasing responses. Closed items were considered more suitable for the present questionnaire because they were quick to answer, thus increasing response rate in self-administered questionnaires, they did not discriminate against the less talkative respondents or those who did not wish to spend a lot of time on the questionnaire and finally, from a researcher's point of view, closed questions are easier to code (De Vaus, 2013; Gillham, 2007). The fourth part, examining curriculum differentiation, comprised two questions; a closed question for respondents to tick if they did not differentiate curriculum at all and an open-ended question where they could list the ways in which they supported *children with language difficulties* in their classrooms. The questionnaire also contained a small section with demographic questions (Appendix 4).

4.5.3.3 Validity and reliability of the questionnaire
In studies where an existing research instrument is used, its validity and reliability can be established by scores obtained from past use of this instrument in previous studies (Creswell, 2003).However, this was not feasible in this thesis since the questionnaire

used had to be designed for the purpose of the present study. Hence, the validity of this original instrument had to be established if meaningful and useful inferences were to be obtained from the scores on the instrument. Therefore, three forms of validity needed to be considered: face validity which establishes whether the scale used measures what it is intended to measure, construct validity which establishes whether the scale used truly measures what the researcher thinks it does and finally, content validity which establishes whether the items or questions are a balanced sample of the content domain to be measured) (Creswell, 2003; Gillham, 2007; Robson, 2002; Teddie and Tashakkori, 2009).

Concerning face validity, this is not considered a true indicator of the validity of an instrument in most cases. In fact, the less obtrusive a research instrument is in revealing what it is intended to capture, the less apprehensive respondents will be about the researcher's objectives and hence feel more comfortable with taking part in the survey (Robson, 2002). For the present questionnaire, the instructions given stated clearly that what was measured were children's language abilities when in fact the underlying aim was to capture the teachers' knowledge base and understandings of issues related to language development.

Concerning construct validity, the literature suggests that there is not an easy and single way of determining it (Cohen, 2000; Robson, 2002; Teddie and Tashakkori, 2009). Nevertheless, a possible way to reduce its threat is to rely on multiple measures for data collection such as questionnaires, achievement tests and teachers' ratings. The process has been adopted here with the use of complementary data sets as already presented extensively throughout this chapter. However, there are other ways to overcome threats to construct validity as well. In particular, to determine the construct validity of a data collection instrument, Teddie and Tashakkori (2009, p. 210) suggest the procedures of judgemental and of empirical validation. The first refers to asking the opinion of 'experts' whereas the second refers to conducting an empirical audit/study. Both procedures were followed in the present study. Thus, the final version of the questionnaire was the result of a process of continuous refinement in cooperation with

the supervisor of this thesis and of an initial pilot testing with 18 Greek primary school teachers. Further refinement was needed, however, in the light of new issues which emerged as implications from the interviews' findings and the revised instrument was piloted again with 10 Greek teachers.

To assure content validity in the initial stage of the questionnaire design, the items included in it were derived from a combination of three different literature sources. Those comprised current Greek and international studies on the latest advances in TLD and language difficulties in primary education, the last version of the Language Development Protocol for primary education of the National Curriculum of Greece (Ministry of Education and Lifelong Learning, 2000) and a number of language related themes discussed in the I CAN Early Talk package (Dockrell et al., 2007). As with construct validity above, content validity was further assured initially with the piloting and re-piloting of the questionnaire which led to a continuous improvement of the wording of the items and of its content and later, during the course of the study, with its final refinement in the light of implications from the exploratory interviews. Finally, the instrument was designed to include both open and closed items as another way to enhance validity, as when only closed questions are used, the questionnaire may lack coverage or authenticity, whereas when only open questions are used, respondents may be unwilling to answer them (Cohen, 2000).

Reliability, which refers to the stability and consistency of an instrument across time and generalizability, which refers to the extent to which the findings of a study can be inferred to the general population are yet two important variables when developing an original instrument. The reliability of the present questionnaire was enhanced through the testing and retesting of its components in the piloting stage. Furthermore, the questionnaire was anonymous and that, according to Cohen (2000), enhances reliability. Finally, the representativeness of the sample and the large sample size were crucial parameters in enhancing the reliability and generalizability of the instrument.

4.6 Theoretical perspective for the present study

All research is based on an underlying assumption about what constitutes 'valid' research and which research methods are appropriate (Creswell, 2003; Teddie and Tashakkori, 2009). In the formulation of a theoretical perspective for studying Greek teachers' understanding of language development and of language difficulties, social constructivism theory (often combined with interpetivism) (Creswell, 2003) provided a useful prototype. Assumptions of social constructivism hold that the social world consists of and is constructed by meanings. Therefore, society does not exist in an objective and directly observable form but rather, it is experienced subjectively. Individuals bring in their own perceptions and interpretations when they seek to understand the world around them and by corollary, there are multiple and diverse views which underpin the interpretation of phenomena and not just a few categories of views or ideas. Hence, the social world is interpreted differently by different individuals. The goal of the researcher becomes then an attempt to explore 'the multiple social constructions of meaning and knowledge' (Robson, 2002, p. 27) by relying as much as possible on the participants' perceptions of the situation under study. This study documented those perceptions and views from a number of Greek educators for, when studying behaviour, it is best to describe it and explain it from the point-of-view of those involved and with effective research methods (Livesey, 2006). Those methods 'have to reflect the fact that people consciously or unconsciously construct their own sense of social reality' and have to successfully capture 'the quality of people's interpretations, definitions, meanings and understandings' (Livesey, 2006, p. 4). However, historical and cultural norms should also be taken into account when generating meaning from data collected in a particular field through the prism of social constructivism (Creswell, 2003) as people's meanings and attributions to situations are always context-bound and the broader social context and interactions with the community may influence their views. This is particularly the case in special education as cultural belief systems have been shown to influence teachers' value systems and, by corollary, their own intrinsic beliefs about 'normality' and disability (Soulis, 2009) and their attitudes towards inclusion (Zoniou-Sideri and Vlachou, 2006b).Those

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educational, cultural and social complexities were investigated in this thesis with data from different research sources and were examined within the current Greek educational context.

Research in the social constructivist research paradigm is mainly qualitative (Creswell, 2003; Robson, 2002). With the use of broad and open questions, researchers seek to construct the meaning of a situation and, –rather than starting with a theory- their goal is to examine multiple perspectives and gain a deeper understanding of a phenomenon. The QUAL phase of this study with the interviews served this goal. Nevertheless, MM studies can also be guided by the theoretical perspective of social constructivism in its broader underlying logic and approach to knowledge (Creswell, 2003). In particular, MM studies adopting exploratory designs, as is the present one, allow for a constructivist approach during the first phase of the study to value multiple perspectives and deeper understandings of a phenomenon. In the following quantitative phase, the study moves to postpositivist assumptions to guide the need for identifying and measuring variables and statistical trends (Creswell and Plano Clark, 2011). In that sense, the postpositivist framework provides a basis on which social knowledge can be built. It also contributes to a prismatic understanding of social phenomena and consequently, warrants mixed methods as a means to discover social facts (Fielding, 2012). Taking it further, Hesse-Biber (2010), sees upon the use of QUAL and QUAN perspectives in a study as promoting social transformation, social change and social justice. The author calls the need for data grounded in individuals' lived experiences and, at the same time, situated in a macrocontext, as the much-needed 'dual-perspective' on the social world 'that uses words and numbers to convey findings to social policy makers and in addition seeks to uncover new knowledge that is critical to those whose lives have been disempowered' (Hesse-Biber, 2010, p. 467).

4.7 Ethical issues

The present study followed the British Educational Research Association (BERA) Revised Ethical Guidelines to inform the research process. According to these guidelines, educational research should be conducted within an ethic of respect for

persons, respect for knowledge, respect for democratic values and respect for the quality of educational research. However, these are general guidelines and it is the researchers' responsibility to work from general principles to specific standards based on the needs of their own research project (Lewis and Lindsay, 2000). Thus, for the present study, the main ethical issue that needed to be addressed was the informed consent of the educational authorities and of the children's parents to administer the formal tests. According to the British Psychological Society (BPS) (British Psychological Society 2005) 'where the nature of the research precludes consent being given by parents or permission from teachers, before proceeding with the research, the investigator must obtain ethical approval from an Ethics Committee'. Therefore, a form was submitted to the Ethics Committee for review and the research was approved. Furthermore, within the Greek educational system, no research can be conducted in public schools-especially when young or vulnerable children are involved- without the permission of the Head of the Educational Authority. Thus, the Head of the Educational Authority in north-east Attica was contacted and permission to conduct the research was granted. During the third data collection phase, which involved children, a letter was sent to their parents to request their written permission for their child to be included in the study. The letter briefly provided information about the researcher, the aim of the study, the type of testing to be undertaken and the exact procedure of the testing. Most importantly it assured confidentiality and anonymity of the participating children.

However, even though this is a necessary presupposition, it does not automatically mean that children will participate willingly and consciously in any given research task Furthermore, according to Lewis and Lindsay (2000), participants in the study have the right to be informed about the aims, purposes and to give their informed consent before participating in research. In studies involving children, researchers may have extra responsibilities. Factors such as age, general cognitive ability and emotional status need to be taken into consideration in ensuring that a child is informed. Additionally, Lewis & Lindsay (2000) argue that children themselves need also be meaningfully included in

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the decision making process when participating in studies All these parameters were taken into consideration in the present study and are further analyzed in Section 5.3.3.

Chapter 5 Methodology of the research phases

5.1 Introduction

The previous chapter presented the conceptual methodological framework and overall design of this thesis. It addressed overarching issues of methodology and of design that needed to be resolved prior to the beginning of the data collection processes. This chapter outlines the methods followed for each separate research phase (i.e. participants, procedures, research materials) and also outlines the generic data analyses procedures separately for each research phase.

5.2 The participants

The following sections present the research area setting and the participants for the three research phases. Selection processes are also described and rationale for inclusion in the study is given.

5.2.1 Area setting

The interview and the questionnaire participants were mainstream and special teachers in primary education. The interview participants worked in two educational authorities in east and north-east Attica. The questionnaire respondents and the groups of children were drawn from the north-east authority where the researcher also worked. At the time of the study, there were 25 primary schools and a workforce of almost 340 mainstream and special teachers. The specific area was chosen because it was a large enough urban authority to cover the required sample size for the questionnaire and because the researcher had been working there as a primary school teacher for seven years and was therefore aware of its particularities and specific characteristics. Having a prior knowledge of the area under investigation is, according to Teddie and Tashakkori (2009), an important element for researchers when designing and conducting research.

5.2.2 The interview participants

5.2.2.1 Interviewees' demographics

Interviews were held with 14 mainstream teachers, 3 special teachers and one educational counsellor. All participants – with the exemption of the educational

counsellor- had been colleagues of the researcher in primary schools in Athens. Thirteen of the interview participants were working in the same educational authority in north-east Attica and the remaining five in a nearby authority. Tables 5.1 and 5.2 below present the demographics of the participants interviewed. Extra degrees that the teachers had obtained are presented in a separate table because cases overlapped. All demographics were in accordance with the workforce in Greek primary schools reported by the National Statistical Service of Greece (NSS) (1991/92, 1993/1993) (Vlachou, 2006; Zoniou-Sideri, 2009).Thus, mainstream teachers were overrepresented compared to special teachers and there were more women than men in the sample. Half of the interviewees were aged between 40-50 years and more than half had a working experience of 10-20 years. One third of the teachers had an academic degree but the majority (13 teachers) had a university diploma. Extra degrees included a 2years in-service training for one third of the teachers, either in mainstream, special education or MA degrees.

Table 5.1. Demographics of the interviewees (N=18)

				Provision	
		N	Mainstream	Special teacher	Educational counselor
Gender	Female	10	8	2	
	Male	8	6	1	1
Age group	<30	3	1	2	
	30-40	3	2	1	
	40-50	9	8		1
	≥ 50	3	3		
Years in service	<10	4	2	2	
	10-20	10	8	1	1
	≥ 20	4	4		
First Degree	Academy of pedagogy	5	4		1
	University degree	13	10	3	

Table 5.2. Extra degrees of the interviewees (N=18)

			Provision		
		N	Mainstream Teacher	Special teacher	Educational counsellor
Extra degrees	University equalization	5	5		
	2 years in-service training	6	6		
	MA degree	3	2	1	
	PhD degree	1			1
	Other degree	1	1		
	None	4	2	2	

5.2.3 The questionnaire participants

The majority of the respondents (39%) were aged between 40 and 50 years. There were equally representative groups of teachers under 30 years old and of teachers aged between 30 to 40 years old whereas the over 50s were the least representative subgroup.

The sample teachers had a mean experience of 11.86 years, (SD= 6.86). The largest subgroup of respondents had been recently appointed as they had been working for less than ten years while the smallest subgroup, older educators, had more than twenty years' teaching experience.

In terms of professional qualifications, the majority of respondents (80 teachers, 67%) were university graduates and the remaining had graduated from Academies of Pedagogy. Teachers were also asked to report on whether they had obtained any other

formal qualifications apart from their initial teaching degree. Professional stagnancy was revealed for almost two thirds of the sample teachers who had not obtained any further degrees after their bachelor's. Furthermore, only one in ten out of the 39 Academy graduates (32.7%) had attended University equalization courses as part of an educational policy launched over the last two decades through which Academy teaching degrees could be upgraded to university degrees in order to meet the new standards for initial teacher training. By contrast, a different picture of professional development was evident for the rest of the participants. This subgroup included teachers with Master degrees, either in special education or in general education, as well as 10 participants who had a two-year post-graduate degree in education.

Participants were also asked to indicate whether they had received any type of domain-specific training on language related issues. More than half of the sample teachers (67 teachers, 56.3%) reported never having received any such training. Forty-five teachers in total (37.8%) reported having attended university modules on language development and language difficulties included in their initial training. Only a minority of seven teachers in total (5%) reported special seminars on linguistics, typical and atypical language development, speech therapy, speech production and learning difficulties.

Table 5.3 Demographics of the questionnaire participants (N=119)

			Provision	
		N	Mainstream	Special teacher
Gender	Female	94	84 (89.4%)	10 (10.6%)
	Male	25	23 (92.0%)	2 (8.0%)
	Total	119	107 (89.9%)	12 (10.1%)
Age group	<30	37	34 (91.9%)	3 (8.1%)
	30-40	32	26 (81.3%)	6 (18.7%)
	40-50	46	43 (93.5%)	3 (6.5%)
	≥ 50	4	4 (100.0%)	0 (0.0%)
	Total	119	107 (89.9%)	12 (10.1%)
Years in service	<10	50	45 (90.0%)	5 (10.0%)
	10-20	48	42 (87.5%)	6 (12.5%)
	≥ 20	21	20 (95.2%)	1 (4.8%)
	Total	119	107 (89.9%)	12 (10.1%)
First Degree	Academy of pedagogy	39	36 (92.3%)	3 (7.7%)
	University degree	80	71 (88.9%)	9 (11.1%)
	Total	119	107 (89.9%)	12 (10.1%)
Extra degrees	University equalization	10	10 (100.0%)	0 (0.0%)
	2years in-service training	10	7 (70.0%)	3 (30.0%)
	MA degree	19	15 (78.9%)	4 (21.1%)
	Other degree	6	5 (83.3%)	1 (16.7%)
	None	74	70 (94.6%)	4 (5.4%)
	Total	119	107 (89.9%)	12 (10.1%)
Specific training	No training at all	67	64 (95.5%)	3 (4.5%)
	Initial teachers' training (basic university modules)	45	39 (86.7%)	6 (13.3%)
	Additional university modules/ seminars or professional specialization	7	4 (57.1%)	3 (42.9%)
	Total	119	107 (89.9%)	12 (10.1%)

5.2.4 Participating children

5.2.4.1 Children's demographics

Table 5.4 below includes the demographics of the participating LI and TD students. The sample comprised sixty children in total, thirty in each group, ten in each school year. Boys were overrepresented compared to girls but, nevertheless, the ratio was in accordance with the literature (Dockrell et al., 2012a). All children with TLD were matched for gender and age. For age, no statistically significant difference was found between LI group (M= 93.17, SD= 10.54) and TD group (M= 93.60, SD= 10.79), t= -157, p=.87. Further, Cohen's effect size value (d=.01) suggested low practical significance.

Table 5.4 Demographics of LI and TD groups (N=60)

	LI	TD
	N=30	N=30
Gender	Girls=9	Girls=9
	Boys=21	Boys=21
School Year	Year1=10	Year1=10
	Year2=10	Year2=10
	Year3=10	Year3=10
Mean age (in months)	93.17 (10.54)	93.60 (10.79)

5.3 Procedure

5.3.1 Procedure for interviews

Participants were contacted by email and were asked to take part in the study. It was explained that there were two phases involved, a pilot questionnaire and a follow up interview. Fourteen participants were available at the time to complete both phases whereas four interviews had to be done via Skype due to time and distance restrictions. Participants were then sent the pilot questionnaire and as soon as this was returned

completed, they were asked to indicate where and when they wished to have the interview. The educational counsellor did not wish to complete the questionnaire as it referred to in service teachers; however, the interview was conducted .For the majority of participants, their home or office were the most convenient venues. All interviews were undertaken by the researcher; all were audio-recorded in a digital recorder and lasted between 25 to 45 minutes. At the beginning of each interview, confidentiality was assured.

5.3.2 Procedure for the questionnaire

The head of the local educational authority and subsequently the headteachers were contacted to be informed of the issue under investigation and of the exact research procedure. Headteachers were asked for their consent for their school to be included in the study. The researcher began by visiting the participating schools to inform the teachers of the research project and to give out the questionnaires. Face-to-face distribution was preferred as this provided the researcher with the opportunity to explain the study and to make clarifications when needed. It was emphasized that all demographic data and all responses would be kept confidential.To further assure confidentiality, teachers were asked to complete the questionnaires in their own time and leave them in a box in the headteacher's office. Questionnaires were collected a few days later. Fifteen schools were visited and a total of 180 questionnaires were distributed. After a few days, 119 questionnaires were returned completed representing a satisfactory return rate of 66%. There was no follow-up data collection. From a total of 25 schools in the region, 15 schools were finally visited as the response rate dropped significantly and therefore the data collection ceased. However, the number of collected questionnaires sufficiently exceeded the minimum figure set by the a-priori power analysis and therefore the response sample was considered representative of the population under investigation.

5.3.3 Procedure for children's tests and teachers' checklist

When the questionnaire survey was completed, mainstream and special teachers in participating schools were contacted. The teachers currently worked in Y1, Y2 and Y3

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classes and special teachers in support rooms. They were asked to indicate whether there were *children with language difficulties* in their classes. A brief explanation of the inclusion criteria presented previously was provided to exclude cases of students with other developmental difficulties. When children were indicated, teachers were asked to note down brief comments on the linguistic profiles of children on a blank page attached to the SDQ questionnaire which was also handed to them at the same time. This was done for reasons of time economy and to avoid further engagement with teachers which could potentially be tiresome. Participants were not informed of the type and specific purpose of the children's assessment as this could potentially bias their comments and their responses to the SDQ questionnaire. For each child indicated by teachers as experiencing language difficulties, teachers were also asked to indicate a child of the same gender and of approximately the same age with typically developing language skills for the comparison group. Following, a letter of consent was sent to the parents of the selected children asking for permission for their child to be included in the study. When consent was granted, the assessment took place. No parents refused but reservations were expressed by one mother. After discussion, she agreed for her child to participate.

However, as previously mentioned in Section 4.7, there were further ethical issues regarding the participation of young children that needed to be considered. First, the research target group involved children aged between 6 and 9 years old who were also tested for their cognitive ability. Children were informed about the steps of the testing procedure beforehand. It was explained in simple words that they would do two tests in which they would either point to images and pictures or choose words and phrases. It was also noticed that no written tasks were involved. All children were also informed that if they felt tired or wished to stop for any other reason, they had the right to do so. The testing was done at a time which best suited children (e.g. not during breaks) to ensure the minimum inconvenience and interruption of their school schedule. The tests were administered in a quiet classroom in each school so as to assure that pupils felt comfortable as this was a known environment for them. Both tests were administered

on the same day with each child. Time needed was approximately 45 minutes for the DVIQ and 25 for the Raven's Colored Progressive Matrices (CPM) (Raven, 1984a; Stavrakaki and Tsimpli, 2000) for those children identified as experiencing language difficulties by their teachers. However, duration was significantly less when children with typical language development were tested. No children asked to withdraw at any time during the testing procedure. All children were debriefed in the end. They were thanked and explained that their results would help teachers in the planning and implementation of language lessons.

SDQ questionnaires were completed by all teachers on the same day. It should be noted, though, that there were cases of teachers who –after reading the SDQ questionnaire- were reluctant to fill it in or at least some parts of it as they believed that it disclosed personal information on children. However, they were assured confidentiality of data again and completed the questionnaire.

5.4 Materials

The interview protocol and the questionnaire content were in the previous chapter. The following sections present the research tools used for the children's assessment phase.

5.4.1 The children's tests
Coloured Progressive Matrices

For the assessment of the nonverbal abilities of children the Ravens Colored Progressive Matrices test (CPM) for 5 to 11 years-of-age was used (Raven, 1984a). The PCM has been widely used in Greek studies in the field as there is a lack of Greek standardized instruments for assessing nonverbal intelligence. However, since this is a nonverbal test, it is considered to be less culturally loaded and hence appropriate to transfer across cultures (Petrogiannis et al., 1999).The CPM test measures general cognitive ability by educing new insights and information out of that which is perceived or already known (Raven, 1984). The test comprises 36 items divided into three sets and participants are asked to indicate a missing piece to complete a pattern. For the interpretation of the results, participants' scores are compared with certain

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percentages of the population and are classified accordingly. With regard to the test reliability and validity, Raven, (1984b) reports of good validity and of extremely satisfactory reliability, whether assessed by split-half or retest methods.

Diagnostic Verbal Intelligence Quotient

For the language assessment of children the Diagnostic Verbal Intelligence Quotient test (DVIQ) (Stavrakaki and Tsimpli, 2000). The key reason for choosing DVIQ was that it comprised the only oral language composite Greek test, standardized in a Greek population, available at the time to identify children experiencing language difficulties and which covered all core aspects of structural language examined in this thesis, i.e. vocabulary, morphosyntax, morphology and comprehension. Thus, it could provide a direct assessment and comparison of structural language features between the two cohorts. An additional reason was that both interviewed teachers and questionnaire participants referred mainly to problems with structural language and therefore this was the primary focus of the language testing procedure. DVIQ also covered both comprehension and production of oral language. This was also important, for research has recognized the need to assess both language comprehension and production, as specific language deficits can arise primarily for language production or appear in both processes (Chapman, 2000). Its comprehensive form meant that no more language tests would be needed. In the opposite case, assessment would be a rather time consuming and tiresome procedure for children given that the CPM would be administered on the same day as well. Furthermore, DVIQ was a purely Greek test, developed for Greek speaking children and not a test that had been translated or adjusted to Greek from a different language. According to the Diagnostic and Statistical Manual of Mental Disorders mentioned in Chapter 2 (DSM-5: American Psychiatric Association 2013),the standardized measures of language development must be relevant for the cultural and linguistic group as tests developed and standardized for one group may not provide appropriate norms for a different group due to the sociocultural variation in language acquisition. The use of the DVIQ, therefore, also eliminated the cultural and linguistic biases of tests translated and adjusted to Greek from other languages. In

addition, the test was also age appropriate for children of Y1, Y2 and Y3 of primary education and had already been administered successfully by other researchers in Greek studies that tested children with SLI (Stavrakaki, 2000; Stavrakaki and Tsimpli, 2000; Varlokosta, 2002).

There are two versions, one for preschoolers (are range 2.5- 6 years old) and the one used in the present thesis for school-aged children (7-8 years old). There are two versions, one for preschoolers (are range 2.5- 6 years old) and the one used in the present thesis for school-aged children (7-8 years old). However, the standardization procedure has only been completed for the preschool test and even though the school version has been widely used in Greek studies in the field for more than a decade, no reference norms are yet available. (Details of the standardization process for the preschool version are included in Appendix 5.

Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ-Hel) (Goodman, 1997, translated into Greek by Bimbou-Nakou, Stogiannidou, Kioseoglou & Papageorgiou, 2002) was used as the teachers' rating scale to detect disorders and to gather additional information on the functional impact of children's difficulties on their behavioural and social profiles. The SDQ is a brief instrument developed primarily for screening purposes, such as selecting at risk cases for further assessment and treatment. It provides a balanced coverage of children's and young people's (age range between 4 to 16 years) behaviors, emotions and relationships with a total of 25 items comprising five scales of five items each. The scales measure hyperactivity, emotional symptoms, conduct problems, peer problems and prosocial behaviour. The SDQ scores are used to identify risk categories and are conveniently classified as normal, borderline and abnormal; approximately 80% of a community sample scores in the normal band, 10% in the abnormal band with a further 10% in the borderline band (Goodman, 1997). This categorization of results has been widely used in the literature although it is, according to the author, only a rough and ready method for detecting disorders. Additionally,

there is a second optional part including an 'Impact Supplement' that tests the way the above difficulties impinge on children. These scores are also conveniently classified as normal for a 0 score, borderline for a score of 1 and abnormal for a score of 2 or more. For the purposes of the present study, the Impact Supplement' was included in the SDQ handed out to teachers. Based on total scores, behavioral patterns are classified as normal, borderline and abnormal. With regard to the SDQ reliability and validity, Goodman (1997) reports of a high correlation between the total scores generated by the SDQ with scores of a previous questionnaire with well-established validity and reliability, as evidence for the concurrent validity of the SDQ.

The SDQ was chosen first, because it covered the research objectives for this stage of the study as it focuses on strengths as well as difficulties and provides a better coverage of inattention, peer relations and prosocial behavior (Goodman, 1997). Furthermore, it has also been widely used in the Greek literature in various studies in the field of psychology; hence it is a well tested instrument within the Greek context. However, it has not been widely used in educational studies. Additional practical reasons included its compact format and limited length which made it user-friendly and therefore did not pose any further time pressures on teachers.

5.5 Data analysis

5.5.1 Interviews

5.5.1.2 Rationale for the chosen data analysis procedure
Analysis of interviews sought primarily to generate emergent themes and to explore an under-researched area in the Greek literature. An inductive (or data-driven) thematic analysis was chosen. According to Boyatzis (1998), this can be of most use in the early stages of the research inquiry process to enable the researcher to access a wide variety of phenomenological information through an inductive beginning of the inquiry. A key reason for choosing a thematic analysis was that there were limited pre-existing data from previous research within the Greek educational system and hence no pre-conceived theory to base the analysis on. Second, the data-driven approach lessened the

possibility of the researcher projecting her existing preconceptions onto the interpretation of data as it entailed sticking as close as possible to the raw information in the development of themes. This could be a threat, since designing the pilot study for this thesis demanded a thorough reading of the relevant literature and as a result, a number of theoretical preconceptions did exist in the mind of the researcher. In parallel, all the interviews were conducted by the researcher and which meant that some preliminary ideas of codes had already become apparent. The data-driven approach made use of the themes in the way they appeared in the raw information and eliminated this threat (Boyatzis, 1998).

In similar vein, the inductive approach was chosen because it provided a rich thematic description of the entire data set and thus the reader could get a sense of the predominant or important themes. Finally, the thematic analysis aimed both to reflect reality, and to attempt to unpick or unravel the surface of reality (Braun and Clarke, 2006). By corollary, the stance adopted was that of critical realism on the grounds that this approach acknowledges the ways individuals make meaning of their experience, and, in turn, the ways the broader social context impinges on those meanings (Braun and Clarke, 2006). Therefore, the analysis of the interviews sought to go beyond the descriptive level of identification of the themes within data sets. It also expanded to an interpretive level so as to explore further various aspects of the research topic.

5.5.1.3 Data analysis procedure

The inductive thematic approach was applied as follows: interviews were transcribed verbatim; transcription was followed by immersion in the data, which is repeated reading of the entire data corpus in order to identify key words and interesting aspects that could serve as potential codes or even themes. An initial list with preliminary codes and candidate themes was developed. Two interviews were then assigned first-level thematic codes; the interview with the educational counsellor and with one special teacher with more that 20 years of working experience. These two interviews had a rich set of data as they were the longest and most comprehensive and were inclusive, in terms of thematic coverage. They generated an extensive number of initial codes.

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Another two interviews were then read to determine whether the previous codes were also applicable. A new revised set of codes was developed and this set was compared within and across two new interview transcripts through the process of constant comparative analysis (Patton, 2002). Subsequently, the codes were combined and diagrams (mind-maps) were developed to help sort the different codes into themes. The diagrams were constantly revisited through ongoing immersion in the interviews. They were further refined though comparison with the initial list of preliminary codes of the entire data corpus to ensure that they accurately reflected the meanings evident in the raw information. That also served as a test of the validity of themes in relation to the whole data corpus. Two broad categories of themes emerged (understanding of issues related to language difficulties and views on inclusion) and as did a number of subthemes within the themes. Table 5.5 below presents those themes and subthemes. However, it was always possible that new themes could emerge and this was taken into consideration. Subsequently, the revised set of codes was applied to the remainder of the interviews. Results were quantified where necessary to show regularities or peculiarities or to determine behavioural patterns and idiosyncrasies (Fielding, 2012).

Table 5.5 Categories, themes and subthemes generated from the interviews

Categories	Themes	Subthemes
	Teachers' understandings of language difficulties	Terminology Identification Training Confidence
Language difficulties	Ways to meet the needs of *children with language difficulties*	Strategies to support language development Differentiation of Collaboration/support from other professionals
Inclusion	Inclusion of *children with language difficulties*	The teachers' views Challenges Support rooms

5.5.2 Analysis of the questionnaire, children's tests and teachers' checklist

5.5.2.1 Data analysis of the questionnaire

For the data analysis of the survey questionnaire, the Statistical Package for the Social Sciences (SPSS 22) and Excel were used. Analysis of closed questionnaire items on typical language development, on language difficulties and on instructional approaches sought to examine whether teachers' views reflected current understandings from the literature. To do that, all responses were computed in frequencies and percentages and chi-squares were calculated to establish statistically significant differences. After having tested consistency in teachers' views, their responses were cross-examined with the literature review to examine whether they reflected current understandings or

unawareness of the issues. Further chi-square analyses explored whether demographic features of the sample such as age, gender, first and further degrees and specific training in language related issues significantly influenced teachers' responses.

For the qualitative part of the questionnaire, data analysis procedure followed an inductive approach. The key reasons were the same as those mentioned above for the analysis of the exploratory interviews. The data were grouped and quantified and presented in separate or in comparative tables and in graphs. However, the analysis sought to go beyond the descriptive level of listing teachers' views, and their strategies and approaches to promote language development. It also attempted to conceptualize the data set so as to reveal trends and patterns in teachers' views and to unravel idiosyncrasies which may underpin teachers' understandings.

5.5.2.2 Data analysis of the children's tests and of the teachers' checklist

The CPM, DVIQ and SDQ were also analyzed using the SPSS 22 and Excel software. Data for CPM and DVIQ tests were transformed to z-scores to allow for direct comparisons between the research group and peers with TLD. This was done because there were no normative Greek data for CPM and DVIQ available at the time of the present study. Therefore, z-scores were computed to describe exactly where each individual score was located compared to the total sample means. Both groups were initially compared to the total sample z-scores and subsequently, LI children's scores were compared with the scores of the typically developing children. This was done based on the fact that z-scores have a mean of 0 and a standard deviation of 1 and therefore, a student with a z-score of 0 or close to 0, performed at the average level compared to the sample mean whereas a student with a z-score of +1 or a student with a z-score of -1, showed performance of 1SD above sample mean or 1SD below sample mean respectively. Performances of more that 1SD below mean on the DVIQ test indicated risk of SLI (Stavrakaki and Tsimpli, 2000). For the SDQ, children's performances for both groups were classified to the three risk categories mentioned previously to provide a more coherent picture of the children's profiles of need and to identify 'at risk' cases. The same analysis was also applied to the Impact Supplement

scores but only for the LI cohort since it was automatically scored zero for the TD children.

One-way Analysis of Variance and post-hoc analyses for all tests and subtests were used to examine whether there were significant cohort differences. Subsequent comparisons were conducted to explore potential correlations amongst all tested measures as well as the effects of gender and of school year on the children's performances. Finally, teachers' reported difficulties for LI students were compared for agreement with the DVIQ results. This allowed for inferences to be made about Greek teachers' ability to accurately identify children experiencing language difficulties and about their acknowledgement of students' individual profiles of need.

Chapter 6 Results of the interviews

6.1 Introduction

This chapter includes the results of the eighteen interviews conducted for the first phase of the study. The chapter starts with the specific research questions addressed through the interviews. Following, results are presented in accordance with the two broad categories of main themes and subsequent categories of subthemes reported in Section 5.3.1.3. Thus, the chapter starts with the results for teachers' understandings of language difficulties whereas results for their views on inclusion are presented next. The quotes included in the chapter have been translated from Greek by the author. Apart from cases where the meaning would not be understood, no alterations have been made to the structure and expression of the quotes to conform to the conventions of the English structure. That was due to the data-driven approach that was based on raw information.

6.2 Research questions for the first phase of the study (exploratory interviews)

Based on the research aims outlined in Chapter 4, specific research questions were generated to be addressed in the interviews. These questions were the following:

a) What is the degree of mainstream and special Greek teachers' understanding of the profile of needs of *children with language difficulties*?

b) What is their level of training in language related issues and how confident do they feel in supporting the needs of students with language difficulties?

c) What teaching strategies/approaches do they use to meet the needs of students with language difficulties? Do strategies reflect particularities of the Greek language?

d) What are the Greek teachers' views about the inclusion of *children with language difficulties* in mainstream schools?

6.3 Pilot study

The pilot study (Appendix 2) aimed first at improving the design and methodological issues of the survey questionnaire. It was also an initial examination of Greek teachers' subject knowledge of TLD and of language difficulties for children in primary education with a Likert-scale of 41 quantitative items. Some of the teachers' answers in the pilot questionnaire are referred to in this chapter as interviews followed the questionnaire.

6.4 Interview results on Language Difficulties

The following sections present the results of the interviews concerning Greek teachers' understanding of language problems (terminology and identification) and their expertise in the area (training and confidence). It is important to clarify, however, that responses overlapped in some cases and as a consequence, some of the teachers' answers may be included in more than one section. This was anticipated not only because interviews were semi-structured and therefore respondents expanded their comments but also because language is a dynamic system of subcomponents that work together (Dockrell and Marshall, 2015) and therefore developmental aspects overlap.

6.4.1 Teachers' understandings of Language Difficulties

Terminology and identification were the first two questions examining teachers' subject knowledge and understandings of language difficulties. Table 6.1 below illustrates a comprehensive account of the teachers' responses. Both themes were included in one table as responses overlapped in some cases. However, results are presented separately in detail in the following sections.

Table 6.1 Interviewee teachers' responses to terminology and identification of language difficulties (N=18) (cases overlap)

Grouped category	Specific references	Number of references
Developmental and other disorders	Speech articulation problems/Delayed speech development/ Dysarthria/stuttering /Alalia/Aphasia	11
	Dyslexia	4
	Dysorthography	1
	Dyscalculia	1
	SLI	3
	EBD	2
	Learning difficulties	1
	Autism	1
Problems with aspects of the language system/other cognitive areas	Difficulties with grammar/ syntax/expression	21
	Text/concepts comprehension and narration difficulties	1
	Limited vocabulary/ Difficulties in producing and understanding words/ One word replies	17
	Difficulties with pragmatics	2
	Problems with Maths	2
	Literacy problems	2
Social background	Low socioeconomic and educational status of parents	2
Within child related factors	Hearing/ Motor difficulties	1

6.4.1.1 Terminology

Results indicated that terminology related to language problems was both a complex and puzzling issue which caused confusion amongst participants. As described further below, results on terminology and identification also revealed gaps in training and knowledge and different perspectives in the ways teachers see *children with language difficulties*. First, teachers were asked whether they knew the term SLI and fifteen out of the eighteen sample participants reported never having heard this term before. Exceptions included the educational counsellor and two special teachers (Int. no. 12 and Int. no 15). Teachers were then asked if they were aware of any other specific terminology for children with oral language difficulties. Their responses included differing terms to describe language problems, indicating unawareness and confusion. Eight participants did not know of any other specific terminology whereas four others mentioned dyslexia and dysorthography. Another respondent mentioned Learning difficulties and Dyscalculia (Int. no 9) and two mentioned the terms alalia and aphasia (Int. no. 1 and Int. no. 3). One interviewee was reluctant to separate *children with language difficulties* from the other students in the class stating that: *'The way I see it, all children, for that matter, face language problems'* (Int. no 7) whereas two more respondents opposed the use of diagnostic labels for children and were critical of the term used. Their views were exemplified by comments like *'I don't like to label children, I don't find it ethical, not at this age'* (Int. no 5) and *'I'm a bit confused with the term that you are using, I'm really interested in what's causing speech and language problems, which is the underlying cause? Is it DNA? Is it acquired? A shock perhaps? I need to know what caused it, otherwise, how am I supposed to help the child?* (Int. no. 9). This differentiated approach in language related difficulties was also pointed out by the educational counsellor:

'Mainstream teachers misinterpret Speech and Language problems with other problems –usually connected with written language- such as dyslexia or vice versa. This is when (i.e. when letters are being introduced in Y1) teachers start suspecting something but this is the opposite way, they see problems in writing and when they

examine further they realize that they are actually having problems with the oral language'

6.4.1.2 Identification

The question about identification comprised two parts. First, participants were asked about which age group of children experienced more language difficulties in primary school in their opinion, and whether they could identify a child with language problems, especially at an early stage. Second, they were asked to indicate problematic areas of language development in *children with language difficulties*.

6.4.1.3 Confidence in identifying *children with language difficulties*

All respondents agreed that problems were more obvious and common in early years than in older children, without denying that older children can also face language difficulties as well. Furthermore, despite their differentiated responses for terminology, their lack of knowledge or reluctance to label children, all of the respondents in the sample felt confident in identifying a child with speech and language problems at an early stage (Y1 and Y2).   However, responses like *'I can recognize a child with dyslexia'* (Int. no 10) and *'I know children with autism'* (Int. no 2) revealed misconceptions and reflected the point made in Chapter 2 that *children with language difficulties* often remain undetected or are misdiagnosed. Teachers' reported confidence was also questioned by the educational counsellor who specified that:

'Teachers very rarely recognize a problem in the oral processing of language in the early stages of Y1 despite the efforts of counsellors who insist that they allow a period of 2-3 weeks at the beginning of Y1 for phonological 'tracking'. We do provide them with exercises of phonological awareness -similar to those in other European countries- to identify children who are at risk …they start introducing the alphabet immediately and do not follow our guidelines. We really struggle to persuade them that these first 2 weeks are exploratory and that oral development is a priority   mainly through playful activities'

There was also an evident tendency to misinterpret the causality of language difficulties or other associated problems as the primary language difficulty. For instance, seven teachers reported that children with language problems are those who are left behind with literacy and maths and those who have hearing or motor difficulties or behavioural and social problems. Hence, comments were made about children who experience language difficulties because they are '*shy and introvert*' (Int. no. 3), or *'on a wheelchair and could not speak clearly as well'* (Int. no. 5) or '...*reacted aggressively a lot'* (Int. no 9).Socioeconomic status was also suggested to be a crucial factor for the existence of language problems in children by three respondents, indicating that teachers acknowledged that social disadvantage has its impact on academic attainment. Their comments were:

'I had students in Y3 with lots of language problems but I believe they were due to the social conditions' (Int. no 7)

'…their surroundings are problematic; they do not live in an educated environment' (Int. no. 9)

'In deprived areas in our authority where social and cultural particularities do exist , we come across every type of difficulty in oral language , in semantics, pragmatics, lexicon, phonological awareness' But irrespective of the area , we do come across children with specific problems mostly in vocabulary and in phonology; those are the problems that teachers complain about the most. Vocabulary, especially, is the hallmark and negatively influences written language and pragmatics' (Ed. counsellor)

6.4.1.4 Prevalence rates

A complementary question about identification was included in the pilot questionnaire. Teachers were asked to state their views about prevalence rates of students with language problems in mainstream provision. Three respondents left the question unanswered and stated in the interviews that they could not make any estimation. The remainder of the responses varied significantly, indicating confusion and differing understandings of language difficulties among teachers. The majority thought that the

percentage was around 10%, while for the rest of the cohort, percentage rates ranged between *'very few'* cases to above 20%, with one mainstream teacher amongst them stating that all children have language and *'communication'* problems and '*all need help'* (Int. no 7). The Educational counsellor also believed that language difficulties consisted the most prevailing problems in his authority and reported of prevalence rates that exceeded 20% and in some schools in deprived neighbourhoods '*could even reach 50%'*.

6.4.1.5 Problematic areas in *children with language difficulties* indicated by teachers

Teachers were subsequently asked to profile the needs of children with language problems. Results showed that there were strengths in acknowledging children's needs as teachers listed a number of problematic areas included in the literature (Table 6.2). Without excluding the influence of teaching experience, their views showed a degree of awareness but perhaps also indicated that teachers did not rely on terminology or on diagnostic labels for identification- especially since they did not show strengths in terminology- but rather on the individual profiles and needs of their students as they depicted them in everyday contact with children. Indicatively, none of the respondents reported checking statements or any other form of formal assessment when considering a child being at risk of having language problems. However, not all children with SEN in Greece have statements.

Nevertheless, concerning primary language problems, teachers' responses tended to reflect the morphological and syntactical complexity of the Greek language and at the same time the way language is approached and instructed within the Greek educational system. Thus, teachers' comments were more heavily biased towards difficulties with the structural components of language and less towards difficulties with communication skills. This was seen in the notably more references made to vocabulary and to structural domains of language like morphology and syntax (38 references) compared with references to speech problems and to pragmatics (9 and 2 respectively), as illustrated in Table 6.2.

Table 6.2 Problematic areas for children with LD indicated by teachers (N=18)

	Number of references (cases overlap)
Vocabulary	17
Syntax	14
Morphology	7
Speech	9
Pragmatics	2

Vocabulary

Teachers' comments about vocabulary corroborated the view expressed by their educational counsellor above. All seventeen participants reported vocabulary as the most obvious and prominent language difficulties in primary school children. Responses focused on repetition of the same familiar words, of one-word answers and of word finding difficulties. Indicative teachers' comments included:

'Their vocabulary is so limited that there are times when I think that they are mocking me when they say that they don't understand 'this' or 'that' word' (Int. no. 9)

'They could not describe a simple object not even with 3-4 basic sentences and they give one-word answers like 'yes' or 'no' (Int. no. 8)

Syntax

For a language with a complex syntactical structure, as the Greek language, it was anticipated that teachers would refer to problems with syntax. Indeed, their views reflected their concern about children's expressive difficulties in narrations and descriptions, in sentence structure and in more complicated replies. However, despite it having been stressed by the interviewer that they were being asked about problematic areas in oral language development, some of the replies did, nevertheless, expand to written language. This finding could be either attributed to the academic orientation of

the Greek educational system that considers writing skills as very important or could also be an indication of Greek teachers considering oral language difficulties and problems with written language as undividable. The Educational counsellor further provided such an indication when he commented that '… language problems exceed 20%, half of them in oral language and half in written language'. Fourteen participants emphasized that a large number of children were unable to not follow a balanced structure whenever they spoke and thus could not attribute their ideas comprehensively. Some of their indicative responses were:

'Children in Y1 could not form a meaningful sentence with more than 3-4 words' (Int. no. 8)

'They could not describe a simple object… not even with 3-4 basic sentences and even if they did, their structure would not be right' (Int. no. 10)

(Y2 and Y3 children)… 'no reasonable line of thought, they could not stick to the topic' (Int. no. 10)

'They don't know where to use a comma or a full stop, or a subordinate clause. I sometimes get the feeling that they just see the words as black spots on a white piece of paper, no meaning attributed to them whatsoever'(Int. no 9)

'Y1 and Y2 children could only make affirmative statements and give one-word answers like 'yes' or 'no'. Interrogative, negative sentences were difficult for them and conditional or indirect statements out of the question' (Int. no 7)

Morphology

Teachers' responses captured common problems that *children with language difficulties* may present like problems with the inflection of nouns in singular and in plural number and with the use of tenses and of past tense in particular for Y1 and Y2 children. Passive voice, which is usually a problematic area, was not mentioned by any of the respondents. However, only seven out of the sample teachers mentioned

morphology as a problematic area for *children with language difficulties* and this perhaps indicated limited knowledge for the rest of the cohort. Indicative comments included:

'Singular and plural, they confuse the endings' (Int. no. 8)

'They could not use the words 'yesterday' and 'tomorrow' in the correct time context and with the correct past tenses mainly in Y1 and Y2 (Int. no. 6)

'In older classes as well, they confuse tenses' (Int.no.10)

Speech

Half of the participants mentioned speech problems but, according to their comments, speech difficulties were not as common and widespread as the other problems in the language system. Respondents thought that difficulties in producing the correct speech sounds were transient for most students and mainly restricted to the younger children in primary education. However, one teacher felt that they were also common among older children as well. Indicative responses included:

'They could not pronounce some consonants at an early age' (Int. no 5)

'One child could not pronounce the first letter of a word' (Int. no.1)

'…could not articulate r, f, s even in Y5 and Y6 and it was surprising cause their intelligence was above average' (Int. no. 7)

Pragmatics

Although the social use of language is an important aspect of language competence, pragmatics was only mentioned by the educational counsellor and by one mainstream teacher. As with the other areas of the language system mentioned above, this fact also highlighted a narrowed view of language development that Greek teachers may present; one that sees structural language as more important than the communicative

aspect of language. It also indicated lack of consideration of pragmatics as an important aspect of language competence. Comments included:

'…difficulties in every aspect of the oral processing of language, semantics, lexicon,

   pragmatics, phonological awareness (Ed. counsellor)

 'They cannot read even in Y5 and Y6, they cannot understand concepts and use

   them in the right context and talk with a different style especially in Maths and

   Science' (Int. no 7)

6.4.1.6 Specific training

Teachers' specific training in language related issues and expertise were explored in the interviews as they are key for professionals in identifying children timely, in profiling their strengths and needs and in planning effective interventions. However, for the present sample, results revealed wide variations both in the amount and in the type of specific training teachers had received (Table 6.3). Concerning the amount of training, this varied from no training at all to the attendance of optional and/ or compulsory university modules or seminars on speech and language problems organised either by the University or by private institutions. The interviewees themselves identified gaps in their own knowledge and expertise and none felt satisfied with the amount of the training they had received when they attended University. Thus, four teachers reported never having received any training at all in language development during their initial teacher training. One of the special teachers had attended an optional module on SLI (Int. no. 12) whereas according to the second special teacher there had been no separate modules for language difficulties or language development in their initial teacher training apart from what was included in modules for the language development of children with more profound disabilities like deafness and blindness (Int. no. 14).

Concerning the type of specific training, an overall picture of limited, surface and patchy preparation emerged for both mainstream and special teachers. As one teacher

pointed out '*the modules only touched the surface, nothing special'* (Int. no. 5) whereas another participant commented on the lack of practice *'We received no practice when we did those courses'* (Int. no. 3). Again, the quality and type of training differed amongst respondents. The educational counsellor had a doctorate degree in language development and language difficulties whereas two mainstream teachers reported having attended a series of seminars on speech and language problems as part of their postgraduate studies. The remaining eleven participants had attended various modules in University on language development and language difficulties such as 'Language difficulties and behavioural problems', 'Developmental psychology', 'Pedagogy of speech and language problems', 'The psychology of language' and 'Atypical development of Speech and Language'.

Finally, some of the participants expanded their replies to training in special needs in general. According to their reports, their training was similarly restricted and hence they did not feel prepared to meet the needs of children with disabilities and various learning difficulties.

Table 6.3 Sample teachers' training qualifications in language difficulties (N=18)

	Mainstream teacher	Special teacher	Ed.counsellor
No training	3	1	
Modules on SLI		1	
Initial teachers training modules (Language development and/ or language difficulties)	11	1	
Higher training qualifications			1

6.4.1.7 Confidence in supporting the needs of *children with language difficulties*

Following questions on specific training, teachers were asked about how confident they felt of supporting the needs of *children with language difficulties*. First, some of the participants' responses revealed further misconceptions in identification. Indicatively,

when asked about identifying language difficulties, one of the respondents said that: *'I know I can recognize a child with dyslexia but I wouldn't be able to help the child, it requires specialist knowledge'* (Int. no 10). The participants' responses clearly reflected the views expressed about insufficient training and lack of expertise in the field. In the current sample only two mainstream teachers reported feeling confident with having students with speech and language difficulties in their classrooms. Two of the three special teachers also felt confident; however one of them emphasised that special teachers can only be confident *'only if the mainstream teachers of the children are willing to help them'* (Int.no.12).The remaining thirteen participants (excluding the educational counsellor) felt that they either had only a slight degree of confidence or none at all. However, all of them were positive that with adequate support, they would feel more prepared but their depictions of the type of support varied between in-classroom support and part-time withdrawal in support rooms. The following were some of the views expressed:

'I'm not fully trained, I don't know much on the subject but if I was given help, I'd be sufficient' (Int. no. 7)

'No, not at all confident, without help I can't. The child will not be able to attend, he will be bored, he will feel bad in front of the other children and inevitably will cause behavioural problems' (Int. no. 5)

6.4.2 Ways to meet the children's needs

6.4.2.1 Differentiation of curriculum
Thirteen participants (excluding the educational counsellor) reported differentiating the curriculum to meet the children's language needs. Two mainstream teachers only differentiated curriculum to the minimum and two teachers did not differentiate it at all, stating that they followed the same syllabus as with the rest of the class. Those two participants were the ones who reported not separating students in the class and not ascribing diagnostic labels to children at this age (Int. no 5 and Int. no 7). Responses indicated that what teachers differentiated was the content of taught units; they neither

altered the structure of their lesson nor resorted to other types of effective interventions for *children with language difficulties*. Even when they refereed to changing the curriculum targets, they only reported simplifying the goals and did not mention any specific strategies or other types of interactions with *children with language difficulties* to enhance their level of language understanding. Comprehensive comments included the following:

'I differentiate curriculum a lot for these children, less reading as homework and

perhaps a different set of exercises which I prepare especially for them' (Int. no. 1)

'I changed the goals to match with the needs of each individual case I would only ask for a smaller sentence with3-4 words ,…less written homework but I would insist on more oral practice in the classroom' (Int. no. 8)

'I simplify the goals and try to include them (the children) in team work' (Int. no. 11)

'I don't follow the school book, I teach the same units but with totally different exercises that I make on my own' (Int. no. 14 -special teacher)

'No, I don't, there's no time for that, neither for one-to-one tuition' (Int. no. 17)

'No, I do what I do with the rest of the class' (Int. no 5)

6.4.2.2 Strategies and interventions to promote language development
Teachers were asked to report the ways they scaffold language development to meet the needs of *children with language difficulties*. Sixteen participants in the sample reported practicing with a variety of in-classroom strategies to support the language needs of children. This number, however, was higher than the number who stated that they differentiated the curriculum, perhaps indicating that some of the respondents referred to universal teaching techniques that they use for all children in their classrooms. However, those teachers specified that their interventions mainly targeted vocabulary and did not refer to other problematic areas, nor were they probed to. They distinguished between age groups and reported a variety of approaches for lexical

development. These approaches, notwithstanding, could not be grouped into one category as teachers referred interchangeably to teaching strategies, to activities, to resources and to targets of intervention, but only for younger children (Table 6.4). However, those targets were rather indirect and emerged as associated benefits to teaching approaches and not pre set outcomes planned by teachers. For instance, one teacher reported that having fairytales read aloud to children was one of their favourite activities as '*they love listening to these stories'* (Int. no 7) but did not emphasize that as an intervention target to promote language development. Interestingly, for older children, teachers did not mention any specific targets of interventions at all, but rather made general assumptions such as *'it really helps with these children'* and only listed teaching approaches they believed promote language development.

The type of approaches also differed between age groups. For younger students, approaches were common universal teaching strategies known to teachers through the school textbooks, were more playful and involved drama and group work. By contrast, for older children, approaches were notably academic in nature as they focused more on comprehension of written texts of different genres, on the practice of morphology and syntax in written tasks, indicating that language instruction focuses more on written competence as children get older. Such findings rather reflect the academic structure of the Greek curriculum but could also provide another significant indication; that Greek teachers did not differentiate practice across modalities of language (i.e. spoken or written) but approached language development as a unity. Teachers did not mention any types of group work, acting out or direct oral language practice for older children either. Results also indicated that special teachers did not differ from mainstream teachers in their approaches. Some indicative responses were the following:

For younger children

'Library time with well known fairytales and I would stop at a very familiar point where I was 100% sure that they knew what to say and asked them to continue from there… That I found really boosted their confidence in speaking' (Int. no. 16)

'I like working with songs a lot because I think that it frees up their tongue. What I do is a brief analysis of the song, focusing on the words mostly cause there are words that children sing but do not quite understand'(Int. no 17)

'I like to act out the fairytales and I also work with the traditional old stories from our Anthology and they do love listening to these stories and play word games and drama and things like that - so I work with drama a lot' (Int. no. 7)

 For older children

'Comics for teaching direct-indirect speech, educational videos (e.g. experiment simulation in Science) which really helps with these children' (Int. no. 8) and (Int. no. 14)

 'I always ask them comprehension questions with every type of written text that we do, be it an advertisement, a poem, a dialogue, whatever' (Int. no. 2)

'Written goals in posters or other visual material' (Int. no. 12-special teacher)

'Guided writing after having discussed a theme and having created mind-maps on the board' (Int. no. 7)

'Word families, root words –synonyms, opposites, mixed up relevant words to form sentences with' (Int. no. 3)

Table 6.4. Teachers' reported approaches to promote language development (cases overlap)

Type of approach	Examples	Younger children (Y1-Y3)	Older children (Y4-Y6)
Teaching strategies	Dramatization/group work	5	
	Text analysis/ comprehension	2	4
	Guided writing/mind maps		1
Activities	Structured exercises	2	4
	Word games	1	2
	Library time	1	
	Singing	1	
Resources	Visual aids (e.g. comics, posters)		2
	ICT		1
Targets of intervention	Boost confidence	1	
	Encourage speaking	1	
	Listen to stories and act out	1	

6.4.2.4 Collaboration with and support from other professionals

The literature review showed that there is lack of support for in-service teachers in the Greek educational system. Teachers' responses to collaboration with other professionals also reflected this gap. Overall there was a strong sense that the lack of adequate and efficient collaboration with specialists was the teachers' everyday problem in meeting the needs of children with language or learning difficulties in general. Participants were asked to name other professionals with whom they collaborated or where they turned for support and guidance whenever they came across *children with language difficulties*. Results clearly showed that teachers followed the formal guidelines set out by the Greek Ministry of Education. Thus, the special teacher

was informed first and when deemed necessary, the Educational counsellor or the local Centre of Diagnosis, Evaluation and Support (ΚΔΑΥ). A majority of 16 participants reported following this line of action. Six participants also mentioned other sources that they consulted such as the Internet and various books when they needed information about *children with language difficulties*. One mainstream teacher's reply, however, was indicative of the misconceptions surrounding SE in Greece, as he referred to consulting a friend who was a professor in medical school.

Special teachers

The quality and effectiveness of collaboration between mainstream and special teachers, was approached cautiously and was questioned by both sides. Mainstream and special teachers' views totally contradicted when it came to delegation of responsibility for the negative picture of integration units. Indicatively, one mainstream teacher believed that in Greek primary schools *'there is no such possibility (of collaboration) with anyone because there isn't any specialist staff'* (Int. no. 16) whereas one of the special teachers felt *'really disappointed with the mainstream teachers' unwillingness to collaborate'* (Int.no.14). Overall, in the general teachers' comments there was a strong sense of children's needs not being matched by support from special teachers. In particular, they believed that special teachers lacked the necessary expertise, did not set out individual educational plans for every child and thus their support was inadequate and ineffective. On the other hand, special teachers were not satisfied with the general teachers' willingness to cooperate. They thought that their role was underestimated as general teachers tried to *'get rid of those children (with disabilities) and refer them to the special teacher just to look after them… they see as the school's childminders'* (Int. no. 12). The following quotes were the most emphatic:

'They (the support rooms) don't work, I've never seen any progress in any pupil that's been there and I blame the special teachers for that. They have to see it more seriously, they have to organize things better and set goals for every child individually' (Int. no. 5)

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'They (the support teachers) take children with totally different types of disabilities and needs and teach them in the same way and not individually. This does not work' (Int. no. 2)

'It is diminishing for mainstream teachers to deny spending a bit more time with a child that is somehow 'different' from the rest. They can't wait for the special teacher to lift the burden of them. Sometimes they even argue when there are limited places for the support room as to which student has priority' (Int.no.14-special teacher).

In only four out of the eighteen interviews were positive comments reported such as *'They are a treasure for the school'* (Int. no 15- special teacher) and *'They are an important contribution to a teacher's work'* (Int. no. 11).The remaining fourteen participants (including two special teachers) reported not being satisfied with the work done in integration units. Nevertheless they acknowledged the fact that support rooms were the only provision available for them when they needed help since there was no other specialist staff, like Speech and Language Therapists working in the Greek primary schools. According to their responses, integration units were not well organized, did not operate effectively and '*did not live up to their expectations'* (Int. no. 16 and Int. no 17).Teachers identified discrepancies between theory and practice in support rooms; they claimed that although the legislation was *'clear'* and schools were aware of the goals set by it, in practice and in reality things did not work out as they were initially designed. Quite indicatively one teacher pointed out that : *'Most of the times the support teacher is expected to be the cover up staff and fill   in whenever a mainstream teacher is absent and this happens very often in a week'* (Int. no.8). The lack of appropriate and sufficient resources in the support rooms was also touched upon by three of the participants. The following comment was the most characteristic:

'In our school the tuck shop was turned into a support room whereas I think that the special classroom should be the best classroom in the school and with the best equipment' (Int.no.1).

6.4.2.5 Summary and discussion of the results on teachers' understandings of language difficulties

The four variables explored at the beginning of the interviews referring to terminology, identification, training and confidence revealed inconsistencies in teachers' responses. First, terminology was a complex issue that led to confusion and misconceptions amongst participants, reflecting the terminological 'mayhem' described in Chapter 2 (Bishop, 2014; Bishop et al., 2016; Conti-Ramsden, 2014; Reilly et al., 2014a; Reilly et al., 2014b). A number of teachers, for instance, were not aware of any specific terminology, a finding which reflected the remark made by Bishop, (2014, p. 392) that 'if they (*children with language difficulties*) are provided with a label, it will probably be one that most people have not heard of'. Other respondents confounded language difficulties with other disorders (e.g. dyslexia) and referred to various terms interchangeably, reflecting the absence of clear diagnostic criteria and an agreed-upon terminology for language difficulties (Bishop, 2014; Reilly et al., 2014a) and also suggesting lack of knowledge amongst professionals (Bercow, 2008; Boutskou, 2007; Dockrell and Lindsay, 2001; Koutrouba et al., 2008; Salonikioti, 2009).

Furthermore, teachers were not satisfied with their training in language difficulties or in SE in general and therefore did not feel confident in meeting the students' needs. The modules they had attended during initial teachers training were short term courses but this may not be sufficient training for teachers in general (Avramidis and Kalyva, 2007). However, results indicated a marked contradiction as when teachers were asked whether they could identify *children with language difficulties*, all of them were positive that they could and did not question their ability at all, despite not having being trained. Teachers' replies were not homogeneous. Some showed strengths in acknowledging specific elements in problematic areas but others were merely describing broader language problems that did not indicate any particular knowledge in the field. Another unexpected finding that links back to the point made in the literature review about the controversial association between NVIQ and language difficulties, is the fact that only one teacher referred to the discrepancy between general cognitive ability and language difficulties, indicating perhaps that teachers did not

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directly associate language difficulties with cognitive abilities. There was an indication of associating language difficulties with problems in Maths, literacy and with emotional and behavioural problems thus acknowledging impact of language difficulties on other areas of development.

An additional finding was that references to problematic areas were heavily biased towards vocabulary, syntax and morphology and less towards speech and pragmatics. Some of the respondents were specific as to how such difficulties are manifested (e.g. restricted vocabulary that affects capacity for discourse, confusing verb tense agreement). Teachers also referred more to grammar competence and written tasks and less towards oral language development or the social and communicational aspect of language. Indicatively, Morphology as an area of concern made up half of the references compared to syntax (7 and 14 respectively) and this could reflect confusion of the boundaries between the components of the language system as indicated in the literature review. By contrast, only one mainstream teacher and the Educational Counsellor referred to problems in pragmatics as an area of concern for *children with language difficulties* whereas vocabulary and syntax were mentioned by most of participants interchangeably, indicating that less emphasis was placed on the social use of language as a means to language development, reflecting potential unawareness of the significant impact of pragmatics on language development as previously documented in the literature. The finding contradicts previous studies where teachers have reported dealing with increasing numbers of children with PLI in their classrooms and that poses a great challenge to their everyday work (Adams and Lloyd, 2007). However, the present finding was not an unexpected one considering contextual factors in the Greek educational system. No previous studies in the Greek literature exist though, with which to compare teachers' understandings of pragmatics.

Teaching strategies reported by teachers referred interchangeably to methods, targets, principles and approaches. They differed by age group, they were more structured for older children and more interactive for younger children. They included elements of creativity but overall they were rather generic and lack specificity and focus. A

hypothesis that emerges, then, is whether teaching strategies used for children with typical language development are similar in nature and scope or different. The survey addressed this issue further.

Prevalence figures reported by teachers varied widely. The finding could probably reflect two points addressed in the literature. The first relates to the confusion surrounding terminology and inclusion criteria as to who *children with language difficulties* are. Given that there are different groups of children in mainstream classes with either specific or persistent difficulties or mild and transient ones, it is not clear which of those categories each respondent had in mind when answering the question. Thus, for the majority of respondents, percentage rates were higher than the 7% documented in the international literature for *children with language problems* but there were also teachers who thought that rates were much lower. The highest rates reported were within the estimated percentage of children with transient language difficulties that are common in early years education but which may be resolved through maturation and schooling (Law et al., 2000b; Locke et al., 2002). The second point relates to teachers and whether they possess the necessary knowledge to discern TLD from language difficulties or whether they confuse those boundaries and cannot tell if children actually face problems or are in the lower end of TLD (Dollaghan, 2011; Leonard, 1991).

Responses to differentiation of curriculum revealed contradictions, misconceptions and false depictions of classroom practice. Findings also linked back to previous research as teachers reported that they differentiated curriculum and it was possible to note such efforts in their comments about simplifying goals of units or changing the content of taught units but none mentioned using any other form of resources to promote language development or resorting to any other types of specific and targeted interventions to enhance students' oracy skills.

Teachers' confusion and misconceptions were also reflected in the fact that although thirteen teachers stated that they differentiated curriculum to meet the needs of *children*

with language difficulties, a larger number (16 teachers) reported using various strategies and techniques to promote their language development. It could be possible, therefore, that teachers did not differentiate in their minds targeted strategies for *children with language difficulties* from universal strategies utilized for all children in the class. In relation to collaboration, finally, teachers' responses supported the existing Greek literature about lack of support and of collaboration amongst professionals within the Greek educational system.

6.5 Interview results on Inclusion

6.5.1 Teachers' views on the inclusion of *children with language difficulties*

Teachers' responses to inclusion reflected current research findings within the Greek educational system. Participants were positive about inclusion but raised concerns about the noticeable lack of infrastructure and of resources to promote inclusive practices and also about the severity and types of disabilities that could be included in mainstream provision. No notable differences were found in attitudes between older and younger teachers, or between those with less and more years of teaching experience. However, special teachers were more cautious than general teachers and expressed more reservations about the types of disabilities that can be included in mainstream.

Teachers' responses about provision for *children with language difficulties* also verified the literature. All agreed that such children are currently educated in mainstream schools. Views expressed by two of the three special teachers in the sample who worked in special schools, also corroborated the literature. Indicatively, one pointed out that this category of children '*never reaches us in special provision cause we get children with more profound difficulties*' (Int. no. 12). However, half of the sample teachers expressed their concerns about how meaningful and effective inclusion could be without in-classroom support or substantial support from the special teacher, while one mainstream teacher raised the issue of the type and the severity of a child's language problems as a factor determining accommodation into mainstream or special

provision. The same issue was pointed out for other types of children with SEN. The Educational counsellor stressed the lack of research based evidence for inclusive practices in Greece by stating that '*...but still in Greece we do not have a specific model for inclusion and that's because we are way behind scientifically and in research before we move into practice'*. One of the special teachers was also cautious about mainstream teachers and their *'depictions and interpretation of inclusion'* (Int.no.12) with comments like: *'Inclusion for most of the teachers means nothing else but the physical presence of a child with disabilities in their classroom. Nothing else'* Participants' comments about the inclusion of *children with language difficulties*:

'Undoubtedly, mainstream school is very beneficial for children with speech and language difficulties as it combines academic, social and emotional benefits' (Educational counsellor).

'But they are already in mainstream, that's where they should be' (Int. no. 10)

'They can be included, I'm really cautious with special schools. They have to be among children who develop language typically and this will help them a lot. It's up to the teacher to explain to the rest of the class what the situation is (the impairment of the child) and then end the discussion there, then kids accept the fact as it is' (Int. no 8).

6.5.2 Challenges hindering inclusive practices

The issue of support for meeting the language needs of *children with language difficulties*, brought up the issue of everyday challenges that both teachers and students have to face. Teachers did not distinguish between the challenges faced with inclusive practices in general and those hindering the inclusion of children with language problems, hence they referred to both interchangeably (Table 6.5). Inadequate infrastructure and lack of specialist support were indicated as the two major factors that hindered inclusion within the Greek educational system. In relation to training, however, results indicated confusion and contradictory views. On the one hand, thirteen teachers believed that their lack of training and knowledge gap in SE were not counterproductive factors towards a more inclusive school even though they had

previously reported that they were not satisfied with the amount of training in SE they had received in University. On the other hand, when asked about *children with language difficulties*, in particular, more than half of the sample teachers expressed concern about their lack of training and expertise with comments like *'how to make the lesson attractive to them'* (Int. no 13) and '*finding the appropriate way to approach everyday instruction'* (Int. no 2) and about time constraints that leave no opportunities for one-to-one tuition. In a similar vein, the Educational counsellor commented that: *'Teachers may find themselves divided by a dilemma, whether to devote time to the child at the expense of the rest of the class or just follow the curriculum because time is limited'*.

Challenges for *children with language difficulties*, as reported by the teachers, clearly showed acknowledgement of the impact of language problems on a child's academic performance as well as on social and emotional well being. Indicatively:

'Problems with almost every subject, what are you supposed to do in Maths

since you've got to read the problem and understand what it says' (Int.no.9)

'…they will not be able to follow the rest of the class' (Int. no. 3)

'..not being accepted by the peers, irony' (Int. no. 16)

'Difficulty or unwillingness to participate in classroom activities' (Int. no 11)

'Literacy, spelling, writing essays' (Int. no. 10)

Table 6.5 Factors hindering inclusion indicated by interviewees (cases overlap)

Inadequate infrastructure	9
Pressure from the curriculum	4
Lack of training in SEN	5
Lack of specialist support	7
Time constrains/class size	6
Social prejudice	6
Attitudes of parents	3

6.5.3 Support rooms

Overall, it was noticeable that this was an issue of controversy between mainstream and special teachers. In only four out of the eighteen interviews were positive comments reported such as *'They are a treasure for the school'* (Int. no 15- special teacher) and *'They are an important contribution to a teacher's work'* (Int. no. 11).The remaining fourteen participants (including two special teachers) were not satisfied with the work done in support rooms and thought that special teachers lacked the necessary expertise. Nevertheless, they acknowledged the fact that support rooms were the only resource available for them when they needed help since there was no other specialist staff, such as Speech and Language Therapists working in Greek primary schools. According to the mainstream teachers' responses, support rooms were not well organized, did not operate effectively and '*did not live up to their expectations'* (Int. no. 16). They also stressed that the support for students should be based on the students' profiles of needs and individual characteristics, with comments such as '*They (the support rooms) don't work, I've never seen any progress in any pupil that's been there and I blame the special teachers for that. They have to see it more seriously, they have to organize things better and set goals for every child individually'* (Int. no. 5) *' They (the support rooms) take children with totally different types of disabilities and needs and teach them in the same way and not individually. This does not work'* (Int. no 2). Furthermore, mainstream teachers identified discrepancies between theory and practice

in support rooms; they claimed that although the legislation was *'clear'* and schools were aware of the goals set by it, in practice and in reality inclusive policies were not implemented in the way that they were initially designed. Quite indicatively one teacher pointed out that *'Most of the time the support teacher is expected to be the cover staff and fill in whenever a mainstream teacher is absent and this happens very often in a week'* (Int. no.8).

A different picture, however, was presented by special teachers. They thought that mainstream teachers were reluctant to cooperate and also that their role was underestimated as general teachers tried to *'get rid of those children (with disabilities) and refer them to the special teacher just to look after them... they see us as the school's childminders'* (Int. no. 12) *'It is shame for mainstream teachers to deny spending a bit more time with a child that is somehow 'different' from the rest. They can't wait for the special teacher to lift the burden from them. Sometimes they even argue when there are limited places in the support room about which student has priority'* (Int. no 14). Finally, the lack of infrastructure and of appropriate and sufficient equipment in support rooms was also touched upon by three of the participants. As one respondent noticed, *'In our school the tuck shop was turned into a support room whereas I think that the special classroom should be the best classroom in the school and with the best equipment'* (Int.no.1).

6.5.4 Summary of the results on teachers' attitudes towards inclusion

In their review of interventions for supporting the needs of *children with language difficulties*, Roulstone et al., (2012) indicated that inclusion was not a primary focus for this category of children with SEN. Although their sample included SLTs and not teachers, it does portray the current picture. The same picture was revealed with data presented in this study. Greek teachers did not question the mainstreaming of *children with language difficulties* eventhough they raised concerns about more profound difficulties that may hinder children's access to curriculum to a significant extent, thus corroborating the literature about child-related factors that influence teachers' stance towards inclusion. The findings of this phase also verified findings of previous studies

examining provision for *children with language difficulties* (Avramidis and Kalyva, 2007; Dockrell et al., 2014; Dockrell et al., 2012b; Lindsay et al., 2002; Okalidou and Kambanaros, 2001; Salonikioti, 2009) and children with SEN in general. Results indicated that *children with language difficulties* have always been in mainstream provision, but some teachers raised concerns about whether all *children with language difficulties* could be educated in mainstream schools. This finding was not unexpected as previous studies have shown that the type and severity of a child's disability affects teachers' views (Avramidis and Kalyva, 2007; Avramidis and Norwich, 2002; Boutskou, 2007; Marshall et al., 2010; Padeliadu and Lampropoulou, 1997). It was also possible to pick up concerns in teachers' responses about whether support provided to children with SEN in Greek schools truly constitutes meaningful inclusion or is just a locational placement (Zoniou-Sideri et al., 2009). Similarly, there were contradictions about other types of disabilities that could be included in mainstream schools. Nevertheless, participants' overall stance towards inclusion was positive but it also reflected the well-documented tension between inclusion as an ideal in terms of human rights and equality for all on the one hand and on the other, the demanding everyday school reality and deficiencies that may hinder inclusive practices (Vlachou-Balafouti and Zoniou-Sideri, 2000; Zoniou-Sideri and Vlachou, 2006a). Thus, teachers highlighted various adverse factors which hindered the implementation of a meaningful inclusion in Greece but did not distinguish those from the challenges they faced with the inclusion of *children with language difficulties*.

Results raised the issue of the quality of special teachers' training as there was lack of expertise reflected in their understandings about *children with language difficulties*. Mainstream teachers reported being unsatisfied with the support provided in integration units by special teachers because it was not properly individualized. The lack of expertise of special teachers, though, could first be attributed to contextual factors. The indication that within Greek SE, *children with language difficulties* are considered by the Greek Ministry of Education and Lifelong Learning as children with learning difficulties (as presented in Section 2.5) could mean that there is limited specific

training amongst special teachers. Additionally, one special teacher reported that children with 'speech and language problems' never reach them in support rooms as priority is given to more profound disabilities and therefore, lack of experience could also partly explain why special teachers suggested using the same instructional strategies as mainstream teachers. It could also be attributed to practical reasons such as the lack of research on inclusive practices and on evidence-based interventions in Greece for children with SEN which was also highlighted by the Educational counsellor interviewed.

6.6 Implications for subsequent research phase

The pilot study and the exploratory interviews bore implications for the design, content and aim of the subsequent questionnaire survey. Improvements to the design of the questionnaire are reported in the pilot study. Improvements to content and aims of the questionnaire survey were the following:

a. Results indicated knowledge gaps in Greek teachers' understandings of issues around TLD and language difficulties. Contradictions were also evident in their depictions of expertise and of their training in the field. Similarly, teaching strategies and approaches used lacked specificity and were more generic in nature and did not reflect use of the particularities of the Greek language to promote language learning. In addition, strategies were notably less than those reported in the pilot questionnaire for language teaching in typically developing children. It was hypothesised that this would be a general practice amongst Greek teachers. Therefore, the survey questionnaire will test the generalization of teachers' views and will address these issues in a more focused and measurable way.

b. The questionnaire will examine the generalization of all issues explored in the interviews. Nevertheless, two of the interview themes will be excluded from the questionnaire so as to make it more focused on language related issues. These are collaboration with other professionals and views on the inclusion of

children with language difficulties in mainstream provision. Results on collaboration and inclusion did not yield any new elements apart from what is already known in the literature and hence it was predicted that neither would the questionnaire. Further, inclusion was not a primary concern of Greek teachers for *children with language difficulties*, as they were already included in mainstream schools; instead, they were more concerned about how to support those students needs in terms of every day practice. Therefore, it was anticipated that including these two issues would not yield any new results and would also make the questionnaire longer, more complicated and thus potentially tiresome.

c. The questionnaire will examine teacher-related variables (mainstream-special teachers) only in relation to teacher's understandings of *children with language difficulties* and preparedness to meet those children's needs.

d. Teachers working in special schools will not be included in the main research. Both the exploratory interviews and the pilot study indicated that within the Greek educational system, *children with language difficulties* are not transferred to special schools but remain in mainstream provision. However, special teachers working in integration units in general schools will be included in the study as according to the review of the literature and to the results of the pilot questionnaire, children with language problems are initially and primarily referred to the staff in support rooms.

e. Teachers were not aware of the term and the nature of SLI and based on the documented knowledge gap on SE amongst the Greek educators, it was anticipated that this would be a general feature of the targeted population. Therefore, it would either be risky and profitless to include the term SLI or even discouraging for respondents to complete the questionnaire. On the other hand, interviews clearly showed that teachers were aware of the existence of a broader group of *children with language difficulties* in mainstream provision

and all their comments described this category. Literature also suggests that there is a wider group of children with mild and transient language difficulties that are educated in mainstream. Therefore, the main research will not focus on a tight category but on the broader group so as to capture teachers' current understandings and practices. The wording of the questionnaire items will also specify precisely the categories of children it refers to so as to avoid misunderstandings and confusion.

Chapter 7 Results of the survey questionnaire

7.1 Organization of the chapter

The following chapter presents the findings from the survey questionnaire which examined Greek teachers' understandings of issues related to language development. The questionnaire included a combination of quantitative and qualitative items. For data exploration purposes, a series of chi-square analyses were conducted to test the consistency of teachers' responses to the 23 quantitative items examining understandings of Typical Language Development (TLD) and of Language Difficulties (LD). Qualitative questions were explored through an inductive approach and were all quantified and presented in tables and figures. The chapter begins with a detailed account of the participants' understandings of TLD and of LD followed by an examination of potential associations between those variables and teachers' reports on curriculum differentiation and identification of *children with language difficulties*. Further chi-square analysis explored associations with demographic variables that may potentially influence those understandings. Where applicable, survey findings were combined with previous findings from the exploratory interviews and are presented in the summary and discussion sections. The final parts of the chapter present the results on teachers' teaching strategies and approaches to language learning. The chapter concludes with implications for the subsequent research phase which led up to the rationale for recruiting a mainstream sample of children and for conducting formal testing.

7.2 Research questions for teachers' questionnaire

Based on the research aims outlined in Chapter 4 and on the results and implications from the exploratory interviews, specific research questions were generated for the questionnaire survey. Those included:

1. Do Greek teachers' views of typical language development and of language difficulties

a. reflect current understandings included in the literature?

b. influence their identification of *children with language difficulties*?

c. influence their reports of curriculum differentiation approaches?

d. relate to demographic variables such as age, gender, first and further degrees and specific training in language development?

2. What types of interventions and teaching approaches to language learning do Greek teachers currently use both for typically developing children and for *children with language difficulties*? Do strategies reflect particularities of the Greek language?

3. How do these approaches differ between typically developing children and *children with language difficulties*? Do they differ by age group?

7.3 Responses to closed questions

7.3.1 Greek teachers' understandings of Typical Language Development

Table 7.1 below presents the analysis of the questionnaire items on TLD (items illustrated in the table are in brief form and the full sentences are presented in Appendix 4 which includes the questionnaire). The analysis aimed to link teachers' expected knowledge of TLD with what the evidence suggests that children's language skills should be at different points in development. For language difficulties, teachers' knowledge base was linked with research evidence of the profiles of need of *children with language difficulties*. Statistical significant differences denoted consistency in teachers' views (for percentages that were above 60% for any category of responses) or inconsistency/ variability (for percentages that did not exceed 60% for any of the three responses). For instance, 70.6% of teachers agreed with the correct statement that Y1-Y2 typically developing children are expected to have mastered the correct use of Past tenses. Chi-square in this case denoted that teachers' responses differed from chance and hence reflected awareness. For statements that none of the responses exceeded 60% (e.g.Y3 typically developing children are not expected to produce adequate

descriptions), chi-square denoted that there was significant variability in views and thus indicated lack of awareness and confusion amongst participants. In all, items which yielded agreement, indicated confidence and awareness of expectations for TLD in the early years of primary education. On the other hand, items which yielded variability in views, were more likely to reflect lack of awareness and false perceptions of what to expect from typically developing Y1, Y2 and Y3 children in mainstream provision at different developmental points for a substantial percentage of respondents.

 All chi-squares, apart from Item 1 which examined knowledge of vocabulary size for Y1-Y2 children, were found to be statistically significant and hence indicated consistency in teachers' views. There was agreement in teachers' responses for four items (Y1-Y2: correct use of past tenses, comprehensive sentence formation, Y3: produce structured narrations, effectively engage in telephone conversations) but there was also wide variability in the remaining six items (Y1-Y2: possess thousands of root words, Y3:correct use of passive voice, do not produce adequate descriptions, use main and subordinate clauses, pronounce all sounds clearly, infer meanings from oral language). For nine out of ten items, the majority of teachers' responses reflected current understandings of the linguistic developmental trajectories for typically developing children. The items with the largest consistency in responses were related to structural aspects of the language system, i.e Morphology and Syntax. However, as exemplified in the following paragraphs, for a number of items there was wide variability in responses across the three categories which resulted in a weak majority. By corollary, there was a mixed picture of awareness of typically developing children's profiles of strengths and weaknesses in Years 1, 2 and 3 of primary education. For a significant minority of items, many of the teachers expressed uncertainty and confusion, reflected on the percentages of 'Not sure/don't know' responses. Results for this category of responses are presented in Section 7.5. The following sections present detailed findings separately for every aspect of the language system examined in this part of the questionnaire.

Table 7.1. Frequencies (%) of teachers' responses to the expected developmental norms of Y1-Y2 and Y3 children with TLD (N=119)

			Yes	No	Not sure/ Don't	Chi-Square	df	Asymp. Sig.	
			N (%)	N (%)	N (%)				
Vocabulary	Y1-Y2	Possess thousands root words	39 (32.8%)	46 (38.7%)	34 (28.6%)	1.832	2	0.400	
Morphology	Y1-Y2	Correct use of Past tenses	84 (70.6%)	26 (21.8%)	9 (7.6%)	77.966	2	<0.001	***
		Comprehensive sentence formation	83 (69.7%)	33 (27.7%)	3 (2.5%)	82.353	2	<0.001	***
	Y3	Correct use of Passive voice	64 (53.8%)	40 (33.6%)	15 (12.6%)	30.269	2	<0.001	***
Syntax	Y3	Do not produce adequate descriptions	62 (52.1%)	45 (37.8%)	12 (10.1%)	32.588	2	<0.001	***
		Produce structured narrations	101 (84.9%)	16 (13.4%)	2 (1.7%)	144.723	2	<0.001	***
		Use main and subordinate clauses	67 (56.3%)	37 (31.1%)	15 (12.6%)	34.353	2	<0.001	***
Speech intelligibility	Y3	Pronounce all sounds clearly	55 (46.2%)	45 (37.8%)	19 (16%)	17.412	2	<0.001	***
Pragmatics	Y3	Effectively engage in telephone conversations	75 (63%)	27 (22.7%)	17 (14.3%)	48.471	2	<0.001	***
		Infer meanings from oral language	63 (52.9%)	46 (38.7%)	10 (8.4%)	36.924	2	<0.001	***

*** p<0.001

Vocabulary

The wide variation in teachers' views suggested a lack of consistency in their understandings. Participants were not certain of the size of the lexicon that Y1 and Y2 children could possess at school entry. Thus, more than one third of the respondents did not expect Y1 and Y2 children to have a lexical depository of thousands of root words when they first start school, indicating misconceptions of developmental trajectories in typically developing children. However, there was an almost equal number of respondents who believed children to have a large vocabulary size, indicating awareness of developmental norms.

Morphology

For the three items examining morphology, teachers' responses differed from chance and in this case denoted consistency of views. Teachers were more likely to expect the correct use of past tenses when children described events in the past and the formation of meaningful affirmative, interrogative and negative sentences for Y1 and Y2 children. They were less likely, however, to expect Y3 children to have mastered the correct use of passive voice. Thus, teachers' responses partly reflected current understandings of grammatical skills in typically developing children attending early primary school years.

Syntax

For items examining Syntax, teachers were more likely to report that Y3 typically developing children have mastered narrative skills and this differed from chance. However, there was a majority of respondents who felt that Y3 children could not produce adequate descriptions of persons, objects and events or form more complex syntactic structures and a significant minority who felt the opposite, thus indicating confusion and lack of awareness of what the literature suggests for the syntactical skills of typically developing children at this age.

Speech intelligibility

There was wide variability in teachers' responses to speech intelligibility. Almost half of the participants did expect typically developing Y3 children to be phonologically mature enough so as to discern even subtle differences in speech sounds and to pronounce all speech sounds clearly and with proper intonation. However, there were a significant minority of forty-five teachers whose responses were not in accordance with developmental norms for speech intelligibility at this age, as reported in the literature

Pragmatics

For the two items examining pragmatics, teachers were more likely to report that Y3 typically developing children had developed social and communicational skills so as to effectively engage in meaningful telephone conversations. However, there was considerable variability in teachers' awareness of whether Y3 students can infer meanings from oral language, indicating lower expectations of Y3 students' oracy skills.

7.3.2 Greek teachers' understandings of Language Difficulties

Table 7.2 below presents the questionnaire results on Greek teachers' understandings of language difficulties. Overall, there was a mixed picture of awareness and evidence of knowledge gaps. Responses reflected current understandings of the nature of language difficulties for six out of ten items. Variability in replies across the three categories was wider than in TLD, suggesting that Greek teachers were less confident of their views on language problems than of typical language skills in primary school children. Chi-square analysis then indicated that there was no difference in the distribution of teachers' responses and hence, teachers' views lacked consistency.

Impact of language difficulties on curriculum access

The first four items presented in the table below tested teachers' understandings of the impact of language difficulties on the children's ability to access curriculum.

Responses reflected current understandings of the possible impact of language difficulties on literacy and on text comprehension, on spelling and written language and on speech intelligibility. However, teachers were not likely to associate problems with numeracy with language difficulties as 54 respondents (45%) did not agree with the statement compared with the 48 (40%) who did, indicating variability in teachers' knowledge of the general impact of LD on the children's academic attainment.

Social and emotional development

Results on the three items examining teachers' understanding of the possible impact of language difficulties on the children's social and emotional well-being, yielded a mixed picture which indicated lack of consistency in their knowledge. Even though the majority of respondents were aware of *children with language difficulties* being more likely to present behavioural, emotional and social problems and more likely to lack confidence, there were also high numbers of teachers who could not provide an answer, indicating unawareness and confusion in views. The same was also true with teachers' responses to peer relations as they were less likely to associate language difficulties with poor peer relations, indicating partial awareness of those children's profiles of need.

Developmental norms and trajectories

Items on developmental norms and trajectories examined whether teachers believed language difficulties to recede as children get older and whether exposure to poor linguistic environments may be a main cause of such problems. Results revealed uncertainty amongst participants. For the first question, more than half of the sample teachers were more likely to expect *children with language difficulties* to gradually overcome their problems with maturation and the effects of schooling. an almost equal number of teachers considered exposure to deprived surroundings as a main cause of language difficulties, thus indicating misconceptions in their understandings. The two items also gathered the highest levels of 'Not sure/don't know' answers, thus further attesting to the lack of consistency in teachers' views.

Table 7.2 Frequencies (%) of teachers' responses to the possible impact of Language Difficulties (N=119)

| | | Yes | No | Not sure/ Don't know | | | |
		N (%)	N (%)	N (%)	Chi-Square	df	Asymp. Sig.	
Curriculum access	Have literacy and text comprehension problems	95 (79.8%)	11 (9.2%)	13 (10.9%)	115.832	2	<0.001	***
	Have problems with written language	99 (83.2%)	13 (11%)	7 (5.9%)	133.580	2	<0.001	***
	Have problems with numeracy	48 (40.3%)	54 (45.4%)	17 (14.3%)	19.882	2	<0.001	***
	Always produce intelligible speech	12 (10.1%)	91 (76.5%)	16 (13.4%)	99.849	2	<0.001	***
Emotional development	Do not have BESD	24 (20.2%)	64 (53.8%)	31 (26.1%)	23.008	2	<0.001	***
	Have limited peer relations	44 (37%)	58 (48.7%)	17 (14.3%)	21.899	2	<0.001	***
	Are self-confident	19 (16%)	74 (62.2%)	26 (21.8%)	45.193	2	<0.001	***
Developmental norms	Grow out of their difficulties	63 (52.9%)	25 (21%)	31 (26.1%)	21.042	2	<0.001	***
	Have been exposed to poor linguistic environments	60 (50.4%)	27 (22.7%)	32 (26.9%)	15.950	2	<0.001	***

***p<0.001

7.3.3 Indecisive and negative responses

For all items examining TLD and LD, there were a number of participants who explicitly stated that they were not sure or did not know what to answer. However, those numbers were higher for LD than for TLD, indicating greater awareness of a knowledge gap on behalf of teachers for children's language difficulties. In particular, for TLD, almost one third of the participants (34 teachers, 28.6%) explicitly reported not being aware of the amount of root words at school entry and thus further indicating lack of understanding of children's developing oracy skills at this age. For the remaining items, 'Not sure/Don't know' responses were low for morphology, thus suggesting higher consistency in teachers' views and slightly higher for syntax, thus suggesting less consensus of views than in morphology. However, they were at rather elevated levels for the item examining speech intelligibility and for one item on pragmatics therefore this revealed confusion amongst participants. Evidence of better understanding of morphology and syntax compared to the other aspects of the language system corroborated previous interviews results.

For all items examining language difficulties, teachers were more likely to show unawareness for the impact of LD on children's behavioural, emotional and social development and on developmental norms and trajectories, indicating that they were not familiar with the profile of children's needs. However, teachers provided less 'Not sure/Don't know' replies for items investigating impact on curriculum access, showing acknowledgement of what to expect in terms of academic performance.

7.3.4 Summary of the results on Greek teachers' understandings of TLD and LD

Results indicated strengths in acknowledging developmental growth for TLD in Years 1, 2 and 3 of elementary education and for LD in primary school children. Responses in TLD and in LD reflected current understandings for the majority of items. However, there was also strong evidence of knowledge gaps which was reflected in the variability in views and in the large percentages of 'Not sure/don't know' answers in various items. Percentages were lower for TLD and significantly higher for LD. Thus, teachers

were more consistent in their knowledge for TLD than in LD, indicating that they were more certain of what to expect from typically developing children and less certain of the profiles of need for *children with language difficulties*. This was by no means an unexpected finding considering that fundamental milestones in TLD have been documented in the literature as 'observable facts' that are not in dispute (Johnson et al., 2010).It is possible, then that teachers have acquired such level of knowledge in their initial teachers' training. What is in dispute, however, is the boundaries between TLD and LD and that creates confusion amongst teachers, which is also reflected in prevalence figures reported below.

Questionnaire results corroborated findings of the interviews with regard to Greek teachers' understandings of aspects of the language system. Teachers were more consistent in their awareness of the structural aspects of the language system, such as morphology and synatx, and less in their views of speech intelligibility and pragmatics. Similarly, for LD, it could be inferred that there was greater consistency in academic issues such as in written competence, literacy or text comprehension, than in the impact of LD on the behavioural, emotional and social well-being of *children with language difficulties*. In both cases, findings perhaps indicated or reflected the impact of two parameters that also emerged in the previous exploratory research phase; language particularities and context. Those are the highly structural Greek language, on the one hand and the traditional language teaching methods that are mainly based on grammar practice and which probably result in more solid expectations of language growth in these areas of development. In the exploratory interviews, teachers' references to LD were mainly restricted to vocabulary, morphology and syntax. A similar indication was also evident in the variability of results on the item examining the impact of LD on numeracy. More than two thirds of the sample teachers (71 participants, 59.6%) either disagreed with the statement or did not know what to answer, suggesting that teachers had a limited view of language which mainly focused on grammatical skills, written practice, literacy and text comprehension but, at the same time, ignored the universal

contribution of language skills to other school subjects and to the children's general academic performance and school presence.

7.3.5 Prevalence of *children with language difficulties* in primary education

Results on the item examining prevalence rates of language difficulties in primary education indicated a wide variation of views as illustrated in Figure 7.1 below. Results revealed a significant percentage of teachers who were not certain or who did not know (28 participants, 23.5%), indicating lack of awareness as to who the children with such difficulties might be. The three other groups of responses reflected the mixed picture of prevalence figures reported in the current literature and the associated debate about identification and terminology. This was also reflected in the multiple and diverse definitions that participants provided in the complimentary qualitative item asking them to define children with oral language difficulties (Section 7.4.5, this chapter).

There was a complimentary question to the item on prevalence rates asking teachers to report on whether they currently had children with oral language difficulties in their classrooms (Figure 7.2) and the number of those children. A large majority, 74 participants (62.1%), answered positively whereas (39 participants, 32.7%) reported that none of their current students experienced difficulties, indicating in both cases confidence in identifying the presence or not of such difficulties. The same finding was evident in the exploratory interviews which also yielded high levels of confidence amongst educators in identifying *children with language difficulties*. However, results of the interviews also revealed a contradiction. Although teachers were unaware of any terminology or identification criteria for *children with language difficulties* and although they stressed their lack of training in the field, at the same time, they felt confident enough in identifying *children with language difficulties* and in profiling their needs. A similar contradiction was also evident in the questionnaire results. While 28 (23.5%) respondents could not provide a prevalence estimation of *children with language difficulties* and almost half the sample teachers, (55 participants, 46%) could not provide a definition (Section 7.4.5), there was only a minority of six teachers (5%)

who reported not knowing of whether they currently had *children with language difficulties* in their classrooms, thus indicating unawareness of who those children were. The finding highlighted, on the one hand, confusion of issues related to LD and on the other; it raised the question of teachers' ability to identify *children with language difficulties* at an early stage as timely identification is critical (Dale and Patterson, 2010; Dockrell et al., 2012b).

Of the 74 participants who stated having *children with language difficulties* in their current classes, 29 (39%) reported having one child, 33 (44%) two children and 12 participants (16%) reported 3 children. Similarly, Norbury et al., (2016) had previously provided estimations of approximately two children out of 30 in every Y1 class in the most recent epidemiological research in UK. Numbers reported by Greek teachers are higher but this could reflect all the explanations previously presented but could also be attributed to social-related factors. However, the present thesis did not research this parameter further.
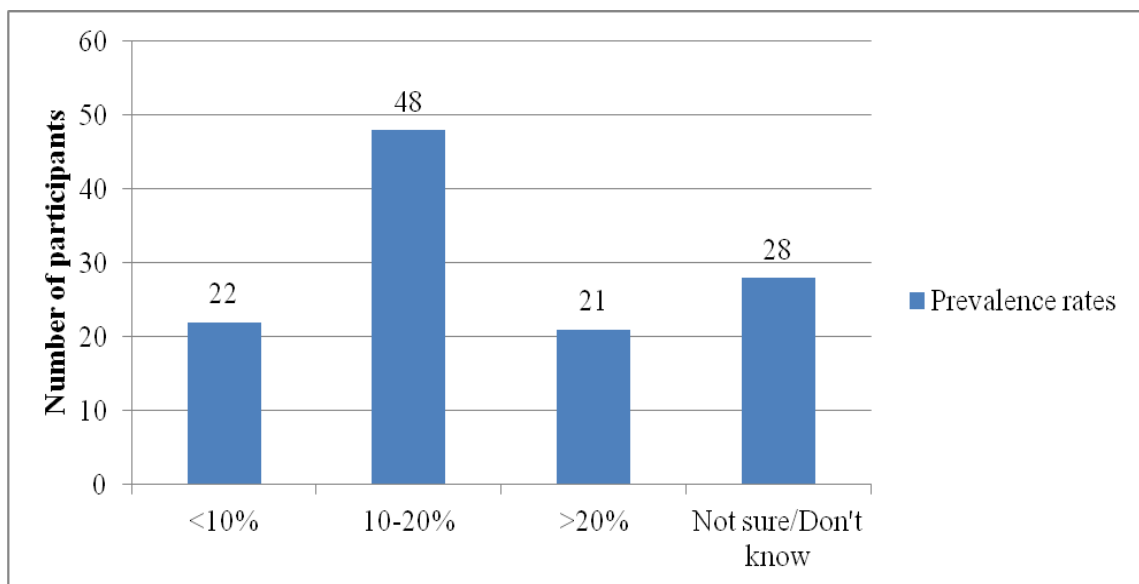
Figure 7.1: Bar chart showing teachers' responses to prevalence rates for *children with language difficulties* in   primary education.
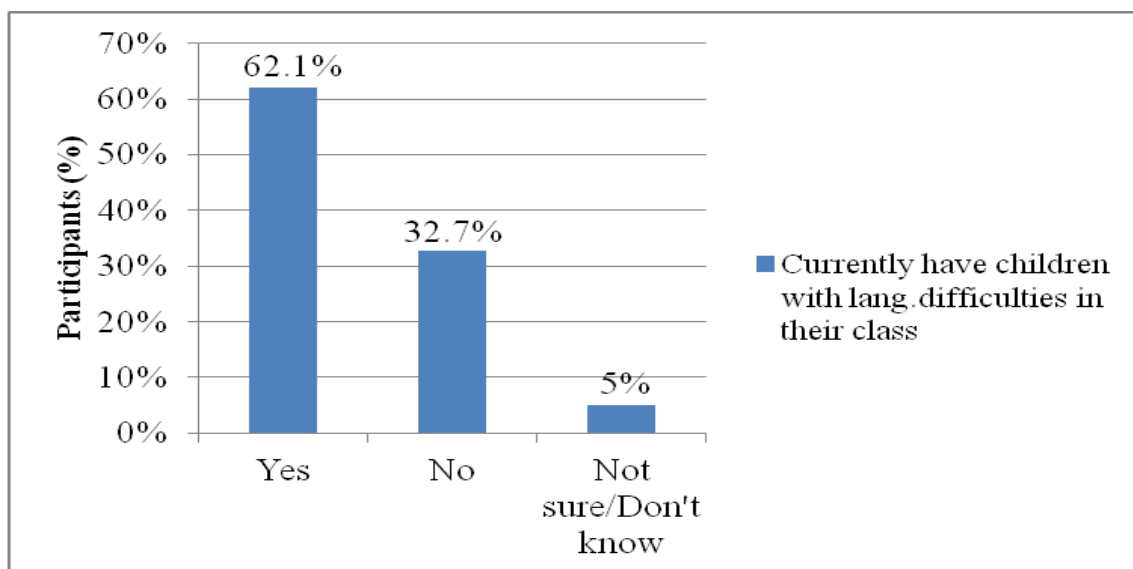
Figure 7.2: Bar chart showing teachers' responses regarding the presence of students with language difficulties in their current classes

7.3.6 Teachers' responses to quantitative items targeting instructional approaches to language learning

For the two items examining interventions for vocabulary and approaches to language input, teachers' responses were found to be significantly different, thus indicating consistency in their views (Table 7.3). Teachers' replies reflected current understandings of language learning instructional practices for all items. Thus, for vocabulary instruction, teachers were more likely to adopt teaching approaches that were evidenced-based and had been shown to enhance lexical development, such as explicitly introducing new words to students and using topic-specific projects for vocabulary growth. For language input, 102 participants (85.7%) were certain that children learn language by imitating adults whereas a significant majority of 80 respondents (67.2%) though that children need to be provided with feedback and be notified of their errors, suggesting in both cases that teachers acknowledged the contribution of verbal input by adults and of language learning interactions to the development and practice of children's oracy skills.

Table 7.3 Frequencies (%) of teachers' responses to intervention practices for vocabulary and language input.

		Yes	No	Not sure/ Don't know	Chi-Square	df	Asymp. Sig.	
		N (%)	N (%)	N (%)				
Vocabulary	Explicit vocabulary instruction	100 (84%)	12 (10.1%)	7 (5.9%)	137.966	2	<0.001	***
	Topic-specific approaches to vocabulary	94 (79%)	13 (10.9%)	12(10.1%)	111.647	2	<0.001	***
Language input	Imitate adult language	102 (85.7%)	9 (7.6%)	8 (6.7%)	146.941	2	<0.001	***
	Need their mistakes to be corrected	80 (67.2%)	16 (13.4%)	23(19.3%)	62.134	2	<0.001	***

***p<0.001

7.3.7 In-classroom support for *children with language difficulties*- Association between teachers' understandings of LD and curriculum differentiation practices

Results showed a disparity of views with 60 participants (50.4%) stating that they did differentiate the curriculum to meet the needs of language impaired children and with 59 participants (49.6%) stating they did not. To address the research question of whether teachers' understandings of LD influenced their reports about curriculum differentiation, a series of chi-square analyses were conducted (Appendix 6). Initially, analysis was first conducted across all responses and yielded a limited number of three significant associations. However, due to the large variation in teachers' responses to LD, the associations were considered a potential statistical artifact and hence a second analysis was conducted by excluding all 'Not sure/Don't know' answers. There was only one statistically significant association between curriculum differentiation and problems with numeracy, (χ^2 = 5.71, df = 2, p= .016), indicating that teachers were more likely to differentiate curriculum when their students presented problems in Maths. By corollary, it was assumed that teachers, who reported on differentiating curriculum, did not do so based on their acknowledgement and understandings of their students' profiles of need. In tandem, results also suggested that teachers lacked the necessary knowledge to plan and implement evidence-based interventions based on current understandings of LD and hence effectively support students' needs.

7.3.8 Variables influencing teachers' understandings of TDL and LD

To explore whether demographic features of the sample teachers such as age, gender, years of working experience, first and further degrees and specific training in language related issues significantly influenced their responses to questionnaire items, a series of chi-square analyses were conducted. The following paragraphs present the results separately for each variable but the full range of chi-square analyses is included in Appendix 7.

Age

Participants' age range varied from under 30 to over 50, thus forming a representative group of the current teaching workforce in Greek primary schools. Statistical analysis failed to establish an overall significant association between age and understandings of TLD and LD as there was only one statistically significant association between teachers' age and awareness of morphosyntactical skills for Y3 TD children (χ^2 = 25.35, df = 2, $p< .001$). Older teachers (70%) were significantly more likely to expect Y3 children to be able to narrate stories or to retell well-known fairytales than younger teachers.

Gender

There was no statistically significant association between gender and teachers' understandings of TLD and LD. Analysis yielded a limited number of diverse associations with four out of the 23 items between teachers' understandings and their gender. For TLD, those associations referred to the correct use of past tenses by Y1-Y2 children, (χ^2 = 15.93, df = 2, $p< .001$) and to Y3 children's ability to infer meanings from oral language (χ^2 = 6.758, df = 2, $p= .003$). Female teachers (79% and 70% respectively) were more likely to expect students to have mastered those skills compared with only 21% and 30% of male teachers respectively. Similarly, for LD, a significantly larger proportion of female respondents (84%) than men expected *children with language difficulties* to experience literacy and text comprehension problems (χ^2 = 11.63, df = 2, $p= .003$) and an even larger proportion (85%) to have low self-esteem (χ^2 = 6.45, df = 2, $p=.04$) compared with only

Experience

As with gender, experience was not found to be an influential variable for the participants' responses, although 69 of them (57.9%) had been working for more than ten years. Chi-square analysis yielded significant associations with only four items. Those included two academic items, i.e. Y1-Y2 children's lexical depository at school

entry (χ^2 = 10.45, *df* = 2, *p*=.034) and Y3 children's ability to narrate structured stories (χ^2 = 13.07, *df* = 4, *p* = 0.01), one item on the potential influence of poor linguistic environments on LD (χ^2 = 11.67, *df* = 4, *p* = 0.02) and one item on verbal adult input, i.e. whether language impaired children need to have their mistakes corrected by the teacher (χ^2 = 12.44, *df* = 4, *p* = 0.01). Teachers with more years in service were less likely to expect children to possess thousands of root words at school entry but more likely to attribute language difficulties to social deprivation and more likely to correct students' mistakes. Teachers with less than ten years of experience were more likely to expect Y3 children to be able to narrate stories than teachers with more years in education.

First degree

The analysis established only one statistically significant relationship between first degree and Y3 children's ability to make inferences from oral language (χ^2 =6.58, *df* = 2, *p* = 0.03). Academy graduates were less likely to expect children to be able to make inferences from oral language than University graduates.

Extra degrees

Extra degrees were also tested for associations with understanding of the 23 TLD and LD items. Chi-square analysis did not establish an overall significant association but yielded a mixed picture. Teachers with extra degrees were significantly less likely to be aware that Y1-Y2 children can formulate meaningful affirmative, interrogative and negative sentences (χ^2 = 18.48, *df* = 8, *p* = 0.01) than teachers with no extra qualifications. However, teachers with a MA degree were more likely to expect Y3 children to narrate structurally correct stories (χ^2 =18.91, *df* = 8, *p* =0.015) but the same was not true for Greek teachers with 2-years in-service training. For LD, teachers with extra qualifications were also significantly more likely (χ^2 =24.19, *df* = 8, *p* = 0.02) to expect *children with language difficulties* to have associate writing difficulties compared to teachers with no further qualifications, more likely to know that *children with language difficulties* have low self-esteem (χ^2 = 24.17, *df* = 8, *p* = 0.02) and that

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they may grow out of their difficulties with the effect of schooling and maturation (χ^2 =15.87, $df = 8$, $p = 0.04$). They were also less likely to attribute language difficulties to social deprivation compared to teachers with no extra degrees who considered this to be the case by majority ($\chi^2 =17.13$, $df = 8$, $p = 0.02$).

Specific training on language related issues

Of the 119 participants, 52 teachers (43.6%) reported having received specific training on language related issues. Associations were examined between specific training and understandings of TLD and LD but analysis failed to establish an overall significant relationship as there were only two significant associations with LD. Teachers who reported having received specific training, were more likely to report that *children with language difficulties* may also present problems with numeracy ($\chi2 =16.27$, $df = 4$, $p = 0.003$) and may have limited peer relations ($\chi2 =14.73$, $df = 4$, $p = 0.005$). However, results should be seen in combination with the types of specific training reported by teachers. Forty- four (84.6%) out of the 52 participants referred to basic modules on language development that they had attended during their initial teacher's training whereas only seven teachers (5%) had attended extra courses or seminars on language development. Consequently and in practice, results indicated that the majority of teachers were not actually trained beyond their initial studies. The same findings were also evident in the exploratory interviews where 12 out of the 18 participants referred to modules in their initial teachers' training as specific training in language development.

7.4 Responses to open-ended questions

The close items in the survey questionnaire were a follow up of the pilot questionnaire. The open-ended items were a follow up, firstly of the open-ended questions in the pilot questionnaire examining terminology and approaches to educational practice and secondly of the confusing views, restricted answers and contradictions that emerged from the teachers' interviews. Overall, there were nine open questions in the questionnaire; one targeted terminology for *children with language difficulties* and

eight examined types of teaching strategies to scaffold language learning for typically developing and language impaired children.

7.4.1 Strategies to promote oracy skills in children with TLD

Overall, participants reported a large variety of teaching strategies to promote language development for Y1, Y2 and Y3 typically developing children. Results documented a total of 60 different approaches to language practice and two broad categorizations emerged. First, similarly to the results of the interviews, approaches could not be grouped into one category but were classified into instructional practices, resources, in-classroom activities and targets of interventions (Table 7.4) as teachers referred interchangeably to those. As the table shows, teaching strategies and activities were referred to most often, followed by targets of interventions and resources, indicating that Greek teachers laid more emphasis more on approaches to TLD instructions rather than on resources and on the outcome of their interventions. Indicatively, there were a total of 59 references to resources, 62 references to explicitly targeting oral language skills and to practising expressive oral language skills compared to a total of 293 references to teaching approaches and activities. Furthermore, there was also an indication that teachers confused oral language practice with the practice of writing skills as eight teachers listed writing essays and narrations as approaches to TLD enhancement. The same finding was previously reported in the exploratory interviews.

Specific examples of teachers' reported approaches were further illustrated in a complimentary table (Table 7.5), following an inductive data analysis procedure. Teachers referred interchangeably both to the content of taught material and to instructional techniques when documenting approaches. However, as the table illustrates, responses were heavily loaded towards the content and less towards how to implement practice (39 references and 21 respectively), suggesting that teachers emphasized more on what needed to be taught, rather than on how to implement approaches in TLD.

Table 7.4 Grouped categories of teachers' reported approaches to oral language development in TLD (N of participants =119)

Type of approach	Grouped category	Number of references (cases overlap)
	Structured exercises in school textbooks	94
	Reading books/texts of different genre	49
	Cross-curriculum projects	22
	Playing games/Dramatization	64
	Metacognitive approaches to word learning	2
Teaching strategies/activities	Narrations	27
	Text comprehension analysis	7
	Written practice (writing essays)	8
	One-to-one teaching	4
	Word games/ syllabus/books	7
	Singing	9
	Practice oral expressive skills	49
Targets of interventions	Explicitly targeting oral language development	4
	Vocabulary development	9
Resources	Visual aids (e.g. comics, posters)	34
	ICT	25

Table 7.5 Examples of teachers' reported strategies for oral language development in TLD (N of strategies = 60)

	Content of strategies (N=39)	Implementation (N=21)
Structured exercises	Grammar practice: verb conversions, sentence production, verb inflection, noun inflection, singular-plural conversions, turn active to passive voice and vice versa	Written practice, text comprehension analysis, one-to-one teaching
	Vocabulary practice: Synonyms, opposites, computer word games, root words, word families, word production, word synthesis, word index notebook, crosswords, riddles, sayings, jokes, compound words	Constructive approach to vocabulary (built new vocabulary on top of the known vocabulary), topic- specific projects, morphological approach
Written texts of different genre	Literature, newspapers, magazines, posters, poetry, fairytales	Read books aloud
Visual aids	Books, coloured cards, posters, table games	
ICT	Internet, power point, computer games, visual digital material, slide- projectors	
Practice oral expressive skills		Dramatization, narrations of personal experiences (team work and individually), dialogues, role play, descriptions based on pictures and on indicative vocabulary, songs, music, cross-curriculum projects
Explicitly targeting oral language development		Oral text reproduction, reproduction of prototype paradigms, retelling of well-known favorite stories like fairytales
Metacognitive approaches	Sayings, riddles, anecdotes, parables, allegories, myths, abstract and metaphorical meanings	Word exploration, practice word etymology, change the ending of stories, arguments

7.4.2 Types of approaches used by age group and by aspect of the language system

Figures 7.3, 7.4 and 7.5 below provide an illustration of teachers' reported strategies to promote vocabulary development and grammatical and syntactical skills. Results indicated that teaching approaches for children with TLD were not linked to any specific targets or outcomes and did not differ markedly across vocabulary, morphology and syntax. This was a rather expected finding considering the interweaving nature of aspects of the Greek language. Thus, the most common approaches overlapped across categories and few were exclusively linked to a particular aspect of the language system, suggesting that teachers approached TLD with a combination of generic and of more focused strategies that they believed to be more domain-specific. For instance, structured exercises and dramatization were documented across all categories whereas reading aloud books or texts of different genre and cross-curriculum projects were exclusively linked to vocabulary and similarly, text comprehension analysis was only reported for morphology instruction. Vocabulary also gathered the largest amount of references amongst teachers (191 references compared to 109 for morphology and 109 for syntax, cases overlap), suggesting that teachers placed greater emphasis on vocabulary as a means of practising oracy skills than on other aspects of the language system like morphology and syntax. Results of the exploratory interviews also indicated that teachers mainly targeted vocabulary growth as a route to enhance oral language development for LI children. With regard to incorporating the particularities of the Greek language into language learning strategies, results did not yield a strong indication. Notwithstanding this, there was subtle evidence (e.g. 'morphological approach', inflectional morphology, root words, word synthesis, and practice word etymology), mostly included in written structured exercises.

Responses did not differ markedly by age group either. This was an unexpected finding based on the literature review (Roulstone et al., 2012) but considering that in

the interviews Greek teachers differentiated approaches broadly between younger children (Y1-Y3) and older (Y4-Y6) and not distinctly across ages, it could be a plausible finding. There was overlap with the most common teaching approaches reported, between Y1-Y2 and Y3 age groups as indicatively, with structured exercises, narrations and dramatization. Responses only differed between Y1-Y2 and Y3 with the less common strategies. For instance, two teachers reported practising metacognitive approaches to word learning and five resorted to text comprehension analysis to enhance grammatical skills for Y1-Y2 children but not for Y3. On the contrary, nine teachers reported practising syntactical skills through projects for Y3 but not for younger children, seven practised etymology of words and one argumentative dialogues in dramatization. The finding perhaps suggests that teachers used approaches with similar structure and philosophy for Y1-Y2 and Y3 students and only occasionally resorted to other strategies when more specific linguistic features were introduced, like etymology or metacognitive approaches to word learning. However, there was contradiction with the exploratory phase results as the teaching approaches for younger children reported by the interviewees were more communicative and playful in nature and less academically oriented as those documented in the questionnaire.

Vocabulary (Y1- Y2)

Legend:
- Approaches to general vocabulary teaching (strategies and material)
- Topic-specific vocabulary instruction

X-axis categories:
- Structured exercises in school textbooks
- Reading books/texts of different genre
- Cross-curriculum projects
- ICT
- Visual aids
- Playing games/Dramatization
- Oral practice
- Metacognitive approaches to word...
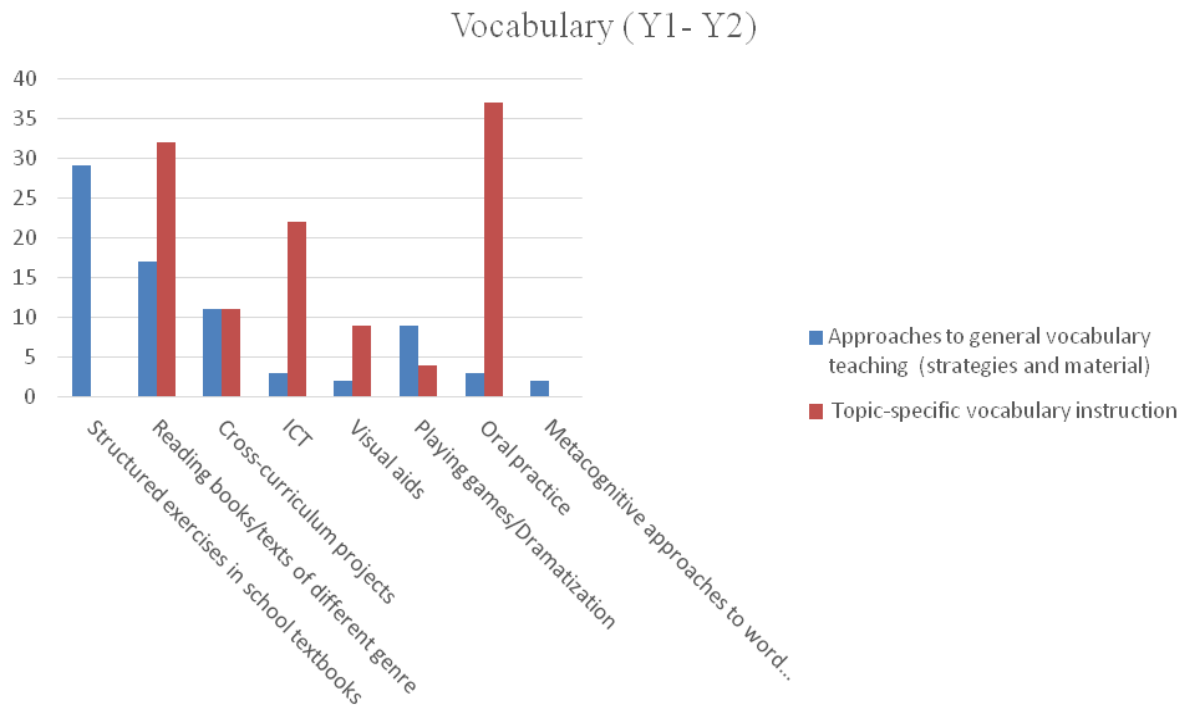
Figure 7.3 Teachers' reported approaches to promoting vocabulary development in TLD
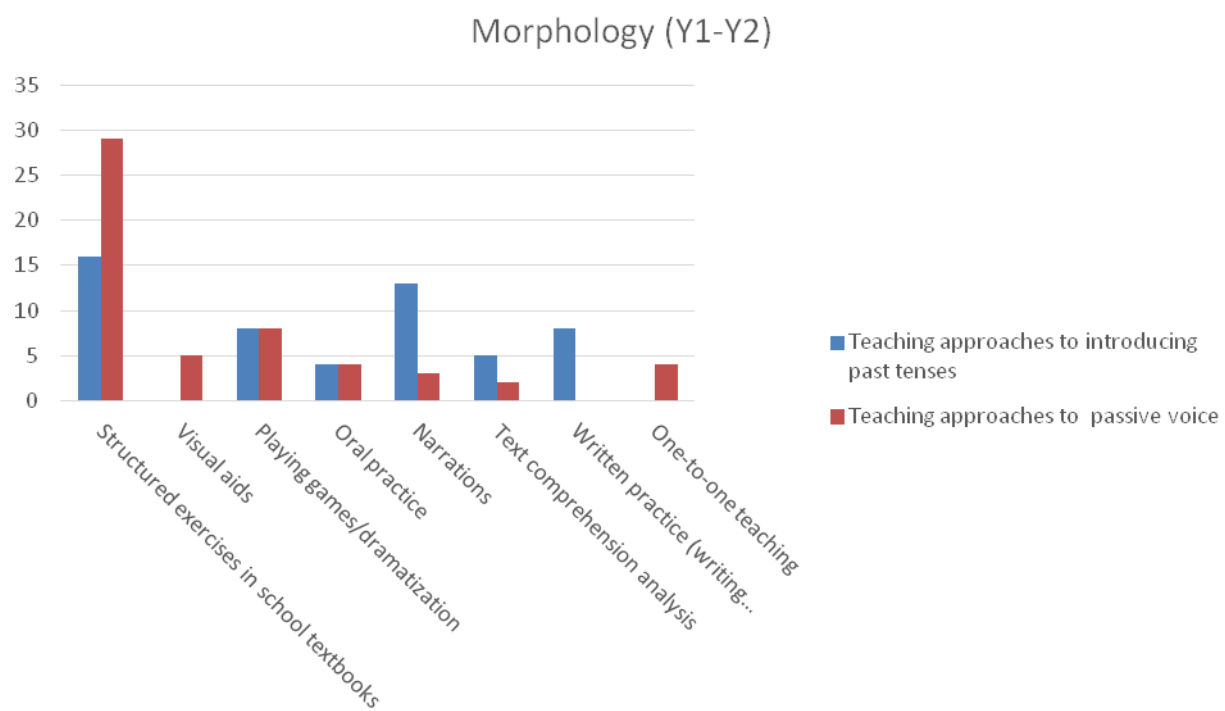
Figure 7.4 Teachers' reported approaches to promoting grammatical skills in TLD
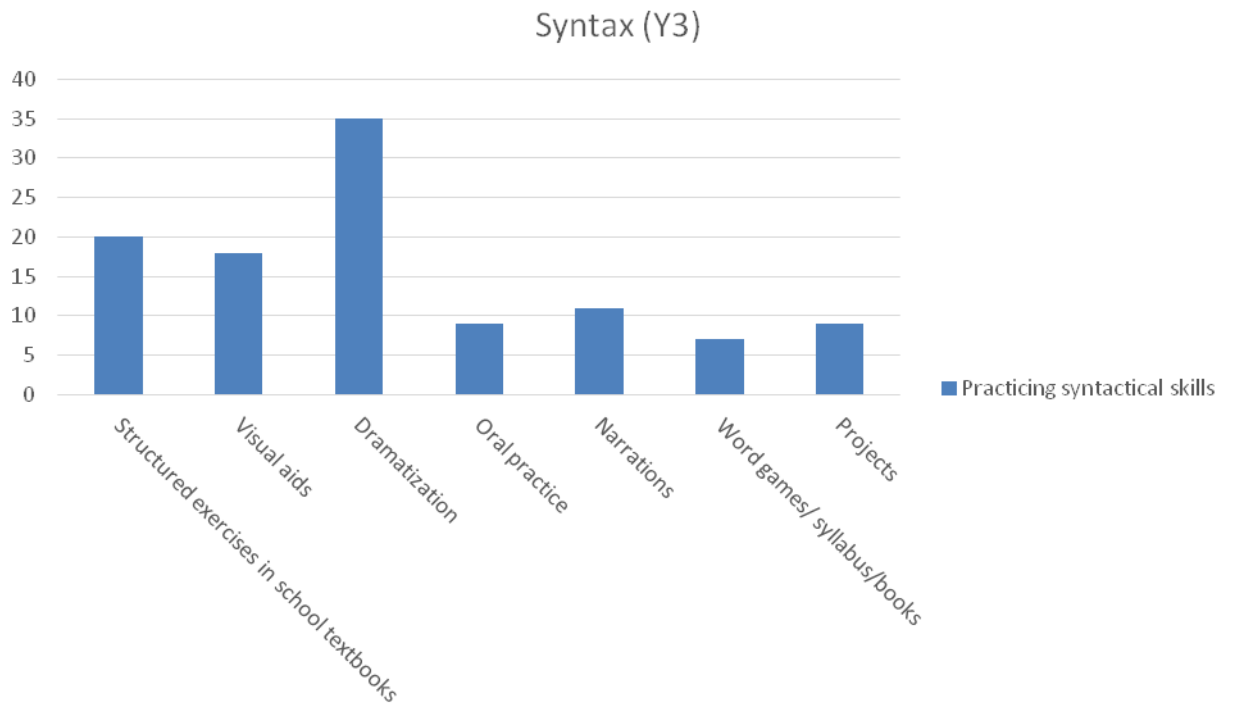
Figure 7.5   Teachers' reported approaches to enhancing syntactical skills in TLD

7.4.3 Strategies to enhance oracy skills in *children with language difficulties*

Teachers were asked to report whether or not they applied different instructional methods for *children with language difficulties* in their mainstream classrooms. Similar to the results for typically developing children, approaches to children experiencing language difficulties varied from teaching strategies, material and resources to targets of interventions.   Table 7.6 below provides an account of teachers' responses and Figure 7.6 is a comparative illustration of the teaching approaches used for typically developing students and for students with language problems.

Overall, 19 types of approaches were listed compared to 60 types documented for TLD in Table 7.5. Again, approaches could not be grouped into one category. Nor was there a clear focus towards enhancing the oracy skills of the less linguistically competent

students in the class. On the contrary, approaches seemed to mirror conventional instructional practices mostly guided by school textbooks. Indicatively, there were 110 references to teaching approaches and activities and only 14 to targets of interventions. Furthermore, reported approaches were rather universal teaching strategies and not specific interventions whereas three were only directly related to oracy skills.

Results illustrated in Figure 7.6 showed that there was a degree of overlap of common approaches such as dramatization, reading books and texts of different genre and cross-curriculum projects but also that there were differing approaches to TLD and to LD. In combination with the fact that 59 questionnaire participants (49.5%) reported not to differentiate curriculum to meet the needs of students with language difficulties, the above finding suggested that Greek teachers worked more with universal and generic language learning approaches for typically developing children in their classrooms and provided *children with language difficulties* limited opportunities for language learning interactions through specific and targeted interventions. Almost all approaches reported, from the most common ones, such as dramatization, simplifying goals and reading texts of different genres to the least frequent like cross-curriculum projects or text comprehension analysis lacked specificity and focus and were rather conventional ways of approaching language instruction without considering children's differing profiles of need. Results were also disappointing as to the explicit practice of oracy skills for LI children. Only one participant referred to practicing oral language skills compared to 53 for typically developing children and very few reported providing *children with language difficulties* more opportunities to talk in as a target of intervention. Narratives and visual aids to enhance language development were not mentioned by any of the 60 teachers who reported to differentiate curriculum. However, in contrast to responses for TLD, responses for *children with language difficulties* were more heavily biased towards implementation and outcomes and less towards content, suggesting that when differentiating curriculum to support the needs of LI students, teachers were more interested in how to support those needs rather than in the means to achieve this. Proposed instructional material also lacked variation

compared to the breadth of the material that teachers reported using to promote language development in typically developing children.

Table 7.6 Teachers' reported approaches to curriculum differentiation (N of participants)

Type of approach	Examples	Number of references (cases overlap)
Teaching strategies	More structured grammar exercises	2
	Reading books/texts of different genre	20
	Cross-curriculum projects	4
	Learn through play/Dramatization	38
	Practice of oracy skills	1
	Simplifying/differentiating goals	20
	One-to –one teaching	10
	Text comprehension analysis	2
	Speech exercises	1
	Vocabulary practice	1
	Singing	11
	Total	110
Resources	Books (fairytales, poetry, myths, comics), posters and puzzles	20
	Riddles, sayings	2
	ICT	1
	Total	23
Targets of interventions	Practice critical thinking	2
	Praise efforts/boost confidence	6
	Create a climate of acceptance and trust	4
	Provide more opportunities to talk	2
	Vocabulary development	1
	Total	14

Teaching approaches to promoting oracy skills in TLD and LD
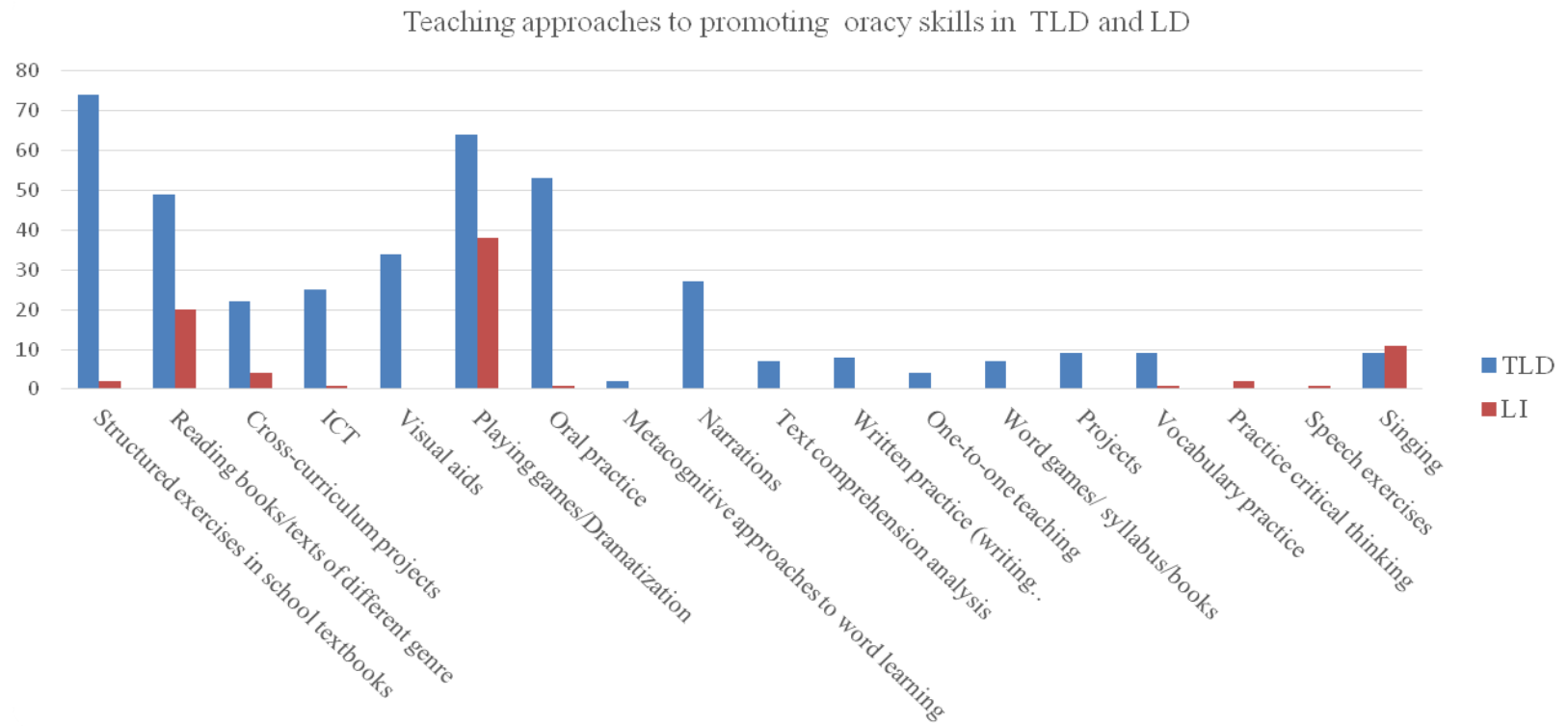
Figure 7.6 Bar chart illustrating teachers' reported approaches to enhancing oracy skills for children with TLD and for *children with language difficulties*

7.4.4 Summary of the results on language teaching approaches for TLD and LD

A large variety of teaching approaches were reported, thus verifying the literature (Law et al., 2012a; Roulstone et al., 2012). However, an overall outcome was that when Greek teachers were asked to report on how to enhance oral language skills, they confused universal and generic approaches to language instruction with specific and targeted interventions for practicing oracy skills in both TLD and LD. Thus, their responses reflected lack of understanding of evidence-based approaches known to enhance oracy skills. By contrast, when teachers' were provided with proposed teaching approaches in the four closed-ended questions presented in Table 7.3, their responses denoted preference to more specific and targeted methods and provided an indication of awareness of the effectiveness and necessity of such approaches. Previous Greek research has also provided such an indication (Salonikioti, 2009). When teachers were asked to list their own strategies, though, those lacked specificity and innovation. Rather, reported strategies indicated that Greek teachers worked more with universal, generic activities than with more targeted ones. Interestingly, the largest amount of strategies (in total, 191 references) was reported for vocabulary practice, a finding which also emerged in the exploratory interviews were teachers reported that they mainly targeted vocabulary growth in language teaching.

7.4.5 Teachers' understandings of the term '*Children with language difficulties'.*

Teachers were asked to note down their understanding of the term 'children with oral language difficulties'. Almost half of the respondents (55 teachers, 45%) either left the question unanswered or stated that they were unaware of the term, indicating lack of knowledge. However, in the very next question about curriculum differentiation, ten of those participants reported that they did differentiate the curriculum to meet the needs of language impaired children and listed the strategies they used. The same contradictory finding was also evident in the exploratory interviews with respondents saying that they were unaware of the term oral language difficulties, on the one hand, but on the other, reported that they did differentiate the conventional curriculum to meet the needs of *children with language difficulties*.

The Sequential Exploratory mixed methods design of this thesis entailed the integration of data and analyses at various points in the study. Plus, the main scope of the survey questionnaire was to examine the generalization of the exploratory interviews results in a larger sample of Greek teachers. Therefore, results of the two phases on terminology were integrated and analyzed so as to reflect more coherently and broadly Greek teachers' views. Integrated results were presented in Table 7.7 below and further illustrated in Figures 7.7 and 7.8. Overall, questionnaire results on terminology indicated that there was generalization and the findings of the interviews were corroborated, in that teachers showed strengths in acknowledging primary language difficulties but there were also confusing views and evidence of lack of training.

Sixty-six participants (55%) did provide definitions about children with oral language difficulties. Results indicated both a degree of awareness but also misconceptions and false depictions. As illustrated in Tables 7.7 and 7.8, there was a wide variation in teachers' replies. Teachers referred interchangeably to developmental and other disorders, to problematic areas of the language system, to external factors and to endogenous features of the child. Indicatively, oral language difficulties were either restricted to speech articulation problems, or were confused with dyslexia and other developmental difficulties like autism and in some cases potential causes of oral language difficulties were mixed up with their impact on young children, e.g. problems with literacy and maths or limited participation in class. Difficulties in pragmatics were only reported by one respondent, suggesting that teachers were not aware of the social use of language as a primary aspect of the language system. The same was also evident in the interviews results where problems with pragmatics were only mentioned by two participants. Additionally, there seemed to be a further confusion with external situations that may hinder language development, like deprived social backgrounds or within child factors such as lack of imagination. None of the respondents provided a coherent definition for children with oral language difficulties. However, definitions focusing on aspects of language as children's primary difficulty and on speech articulation problems gathered the largest numbers of references compared to the very

limited references to social and within child factors, suggesting strengths in acknowledging the differing profiles of need of children experiencing such difficulties and focused mainly on those needs to provide a definition. By corollary, it could be inferred that teachers' replies were rather based on their experience and daily contact with students and did not reflect the outcome of training or of specific knowledge in the field.

Combined results also revealed that problems with aspects of the language system were referred to most, suggesting that in both cases participants focused on the children's language needs to provide definitions irrespective of whether they knew specific diagnostic terms or not. Figure 7.7 illustrates this overlap in responses. There was also limited overlap in developmental difficulties, mainly with references to speech articulation problems and to dyslexia (Figure 7.8). There was, however, very limited or no overlap at all in replies to social background and within-child related factors, suggesting perhaps that those were secondary features of children experiencing language difficulties and hence were not reported by many of the participants. Therefore, those two aspects were not further illustrated in figures.

Table 7.7 Combined responses to terminology for oral language difficulties (Interviews and Questionnaire)

		Interviews	Questionnaire
Developmental and other disorders	Speech articulation problems/Delayed speech development/ Dysarthria/stuttering /Alalia/Aphasia	11	36
	Dyslexia	4	14
	Dysorthography	1	
	Dyscalculia	1	
	SLI	3	
	Autism	1	5
	Brain damage, neurological disorders		4
	EBD	2	1
	Learning difficulties	1	1
	Total	23	61
Problems with aspects of the language system	Difficulties with grammar/ syntax/expression	21	23
	Literacy /maths problems	4	5
	Text/concepts comprehension and narration difficulties	1	9
	Limited vocabulary/ Difficulties in producing and understanding words/ One word replies	17	12
	Oral language comprehension problems		3
	Difficulties with pragmatics	2	1
	Total	46	53

Developmental and other disorders
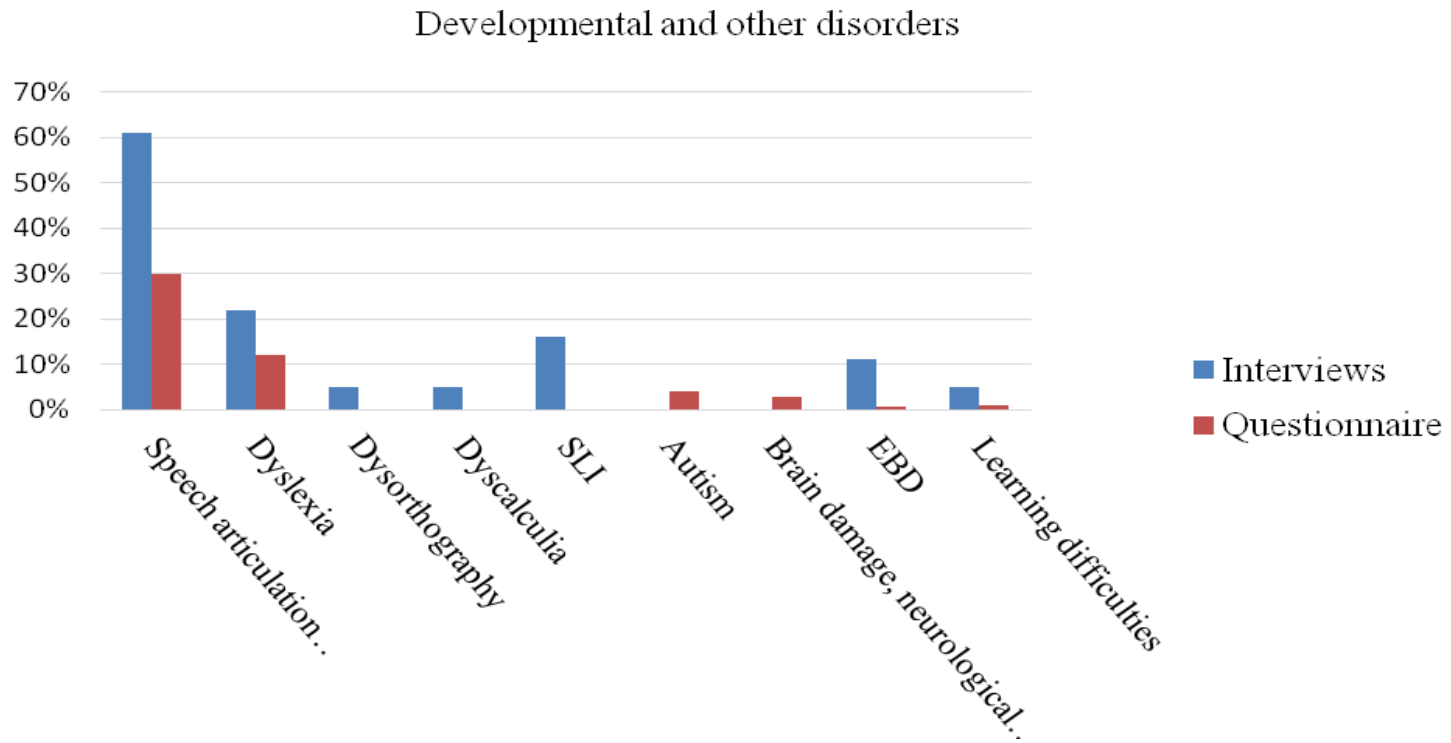
Figure 7.7 Bar chart illustrating percentages of teachers' grouped responses to terminology for oral language difficulties
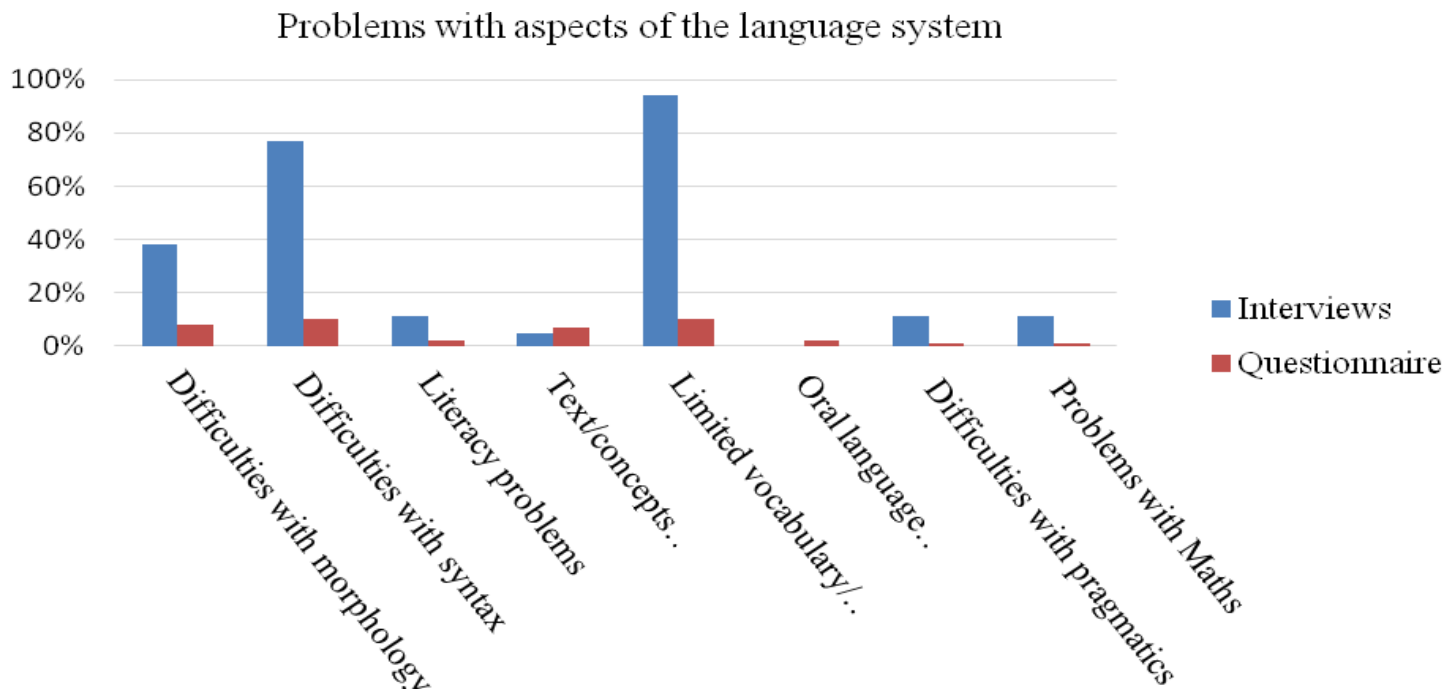
Figure 7.8. Bar chart illustrating teachers' grouped responses to terminology for oral language difficulties

7.5 Implications for subsequent research phase

Questionnaire results revealed strengths in Greek teachers' understandings of expected developmental norms in TLD and of the profiles of need of *children with language difficulties* but also lack of consistency in their views. There was wide variation, in particular, in teachers' responses to the potential impact of language difficulties on the behavioural, emotional and social development of children and on their developmental norms and trajectories. There were also large numbers of participants who gave 'Not sure/Don't know' answers, thus further indicating confusion and lack of awareness. Contradictions were also evident in teachers' responses to prevalence rates for *children with language difficulties* in primary education perhaps providing evidence of inability to successfully identify children. The same finding was also reflected in the wide variations of definitions and of terminology used by teachers when asked to define the term '*children with language difficulties*' and to describe their profiles of need. Previously, exploratory interviews have also provided such indications. By corollary, such findings raised the issue of whether Greek teachers could accurately identify students with language difficulties in mainstream provision at an early stage and whether they could profile individual needs. Both features have educational implications as when teachers are able to identify those students early and to profile their individual needs, then they can seek support from other professionals or plan individual interventions to support children effectively in mainstream classrooms. However, identification of language difficulties on the one hand and assessment of the very nature and extent of children's difficulties in terms of differing language skills, on the other, are two different processes (Dockrell and Marshall, 2015) ,hence, both needed to be examined.

The Sequential Exploratory Design of the thesis allows for the design and scope of subsequent phases to be informed by the results of previous phases. Therefore, questionnaire results had the following implications for subsequent research steps:

a. A mainstream sample of Y1, Y2 and Y3 primary school children were recruited and were tested with a composite language test which provided direct assessment of structural language for both cohorts. Those children were identified by teachers and were indicated as experiencing language difficulties in various domains of the language system. This was done so as to evaluate Greek teachers' ability to timely identify students in mainstream schools who may be at risk for language difficulties and to accurately profile individual needs. For comparison purposes and to validate teachers' understandings of TLD, an equal cohort of typically developing children, again indicated by teachers, were also recruited and included in the research design. Nonverbal ability was also tested for both cohorts.

b. Teachers were asked to complete the Strengths and Difficulties Questionnaire (SDQ-Hel) and the Impact Supplement. This was done because teachers' responses to the potential impact of language difficulties on the students' behavioural, emotional and social well-being varied significantly and therefore indicated potential unawareness of the association between language problems and increased level of risk for behavioural difficulties.

c. Approaches to language teaching did not need to be followed up because the survey questionnaire yielded a large account of instructional strategies and interventions and provided, therefore, a coherent picture of current practice as described by teachers for language learning within the Greek educational system.

d. Children's skills in pragmatics were not tested as there are no Greek tests available and because interview and questionnaire results indicated that Greek teachers were not aware of this area of language development.

Chapter 8 Results of the children's tests

8.1. Overview of the chapter

This chapter reports the results from the final phase of the data collection process. The scope of the chapter is to provide a further insight on Greek teachers' understandings of TLD and LD in relation to timely identification. To do so, the linguistic and behavioural profiles of the LI children in mainstream classrooms identified by their teachers were assessed first and were subsequently compared with performances of typically developing peers.

The chapter starts with the research questions for this phase and then moves on to the presentation of the sample demographics and of overall performances on the tested measures. The following sections illustrate results of statistical analyses based on non-parametric tests examining gender and year group-related effects on children's performances. Next, the cognitive, linguistic and emotional, behavioural and social profiles of children in the LI and TD cohorts are presented and compared. Impact Supplement scores for the LI group are also analysed. Data are additionally examined for associations and risk factors between children's language competence and the presence of emotional, behavioural and social difficulties in mainstream classrooms. Finally, teachers' evaluations of the children's profiles of needs are examined for agreement with children's formal assessment results.

8.2 Research questions for children's assessment

Based on the research aims outlined in Chapter 4 and on the results and implications of the questionnaire survey, the third research phase addressed the following questions:

1. Are Greek teachers able to identify Y1, Y2 and Y3 students experiencing language difficulties in mainstream classrooms?

2. What are the profiles of need of *children with language difficulties* identified by teachers and to what extent do these profiles

   ➤ reflect the difficulties reported by their teachers?

   ➤ differ from the profiles of typically developing peers ?

> ➤ reflect patterns of emotional and behavioural problems known to be associated with language difficulties ?

8.3 Cognitive, language and behavioural, emotional and social profiles of LI and TD cohorts

To address the second research question, a group of Y1, Y2 and Y3 Greek students attending mainstream schools were recruited and were assessed using a battery of tests. In particular, pupils were primarily tested for levels of nonverbal ability and were afterwards assessed on a composite language measure. Teachers were asked to complete the SDQ questionnaire at approximately the same time. The analysis of the data aimed first to compare overall group performances and second to describe the profiles of pupils in both groups on all tested measures. Therefore, means and standard deviations for all measures were initially calculated and independent samples t-tests were conducted to capture statistically significant differences between cohorts. Effect sizes were also calculated to report the magnitude of those differences. Second, pupils' cognitive, linguistic and behavioural profiles were described based on z-scores computed as presented in Chapter 5, Section 5.3.4.2.2.

8.3.1 Sample demographics and overall comparative performances of LI and TD cohorts in the tested measures

Table 8.1 below includes the sample demographics, means, standard deviations and *t*-tests for all tested measures for the two groups separately.

Overall, LI pupils had depressed scores on all tested measures compared to the sample means, indicating below average performances. In particular, nonverbal ability scores for LI students were lower compared to the sample mean (*M*= 22.70, *SD*=6.13) despite being within average range (NVIQ> 85). DVIQ and SDQ total and subcomponents scores were also found to be lower than the sample means (*M*= 128.05, *SD*=30.11 and *M*= 7.85, *SD*=6.10 respectively), indicating that LI pupils had impaired language skills and elevated levels of behavioural, emotional and social difficulties. Between cohort differences were found to be statistically significant for all tested measures, reflecting different developmental trajectories for LI and TD students. All effect sizes for this analysis were also found to exceed Cohen's (1988) convention for a moderate (*d*=.50) or a large effect (*d*=.80), suggesting a notable magnitude of differences in scores between cohorts.

Table 8.1 Demographics and mean scores (SD) on all tested measures for LI and TD

	LI	TD	t-test	Effect size Cohen's d	
	Mean scores (SD)				
	N=30	N=30			
Gender	Girls=9	Girls=9			
	Boys=21	Boys=21			
School Year	Year1=10	Year1=10			
	Year2=10	Year2=10			
	Year3=10	Year3=10			
Age (in months)	93.17 (10.54)	93.60 (10.79)		0.01	
CPM	19.77 (5.54)	25.63 (5.31)	-4.18	1.08	***
DVIQ total	108.37 (28.07)	147.73 (15.99)	-6.67	1.72	***
Word Production	15.00 (5.61)	22.60 (4.03)	-6.02	1.56	***
Morphology	33.63 (8.45)	43.13 (5.37)	-5.19	1.34	***
Morphosyntax	5.13 (3.17)	10.20 (3.90)	-5.52	1.43	***
Comprehension	54.60 (13.81)	71.80 (9.38)	-5.64	1.53	***
SDQ total	11.57 (5.75)	4.13 (3.76)	5.92	1.53	***
Emotional Symptoms	2.37 (1.45)	1.23 (1.68)	2.80	0.73	**
Conduct Problems	1.83 (1.86)	0.33 (0.80)	4.05	1.05	***
Hyperactivity Score	4.73 (2.36)	2.00 (2.02)	4.81	1.24	***
Peer relations	2.97 (2.34)	0.57 (1.10)	5.07	1.31	***
Prosocial Behaviour	7.40 (2.62)	9.13 (2.01)	-2.83	0.74	**
Impact Supplement total	4.03 (1.56)				
Difficulties upset or distress child	1.47 (0.73)				
Interfere with peer relationships	1.33 (0.71)				
Interfere with classroom learning	1.77 (0.50)				

*p<0.05; **p<0.01; ***p<0.001

Notes: CPM= Coloured Progressive Matrices, DVIQ = Diagnostic Verbal Intelligence Quotient, SDQ = Strengths and Difficulties Questionnaire

Within both cohorts, there was considerable variation in DVIQ total and subscales scores as shown by the large standard deviations, suggesting that language performances varied notably amongst students. For the LI group, the finding probably reflected the fact that language difficulties include a broad category of needs in various domains of the language system. For the TD group, within cohort variation rather reflected the differing profiles of strengths and weaknesses that young children may present and the different developmental trajectories in language growth that children of the same age may follow. Within both cohorts, SDQ total and subtests scores also resulted in large standard deviations mainly for the LI group, reflecting the diverse nature of potential behavioural, emotional and social difficulties associated with language problems. Impact Supplement scores for the LI cohort were also elevated compared to test norms, suggesting that language difficulties had a negative influence on those pupils' academic and social well being in mainstream classrooms.

8.3.2 Gender and age-related effects on the profiles of participating children

The present sample included 42 boys (70%) and 18 girls (30%) from three different year groups. Data were analysed for effects of year group and gender so as to examine whether such demographic factors could be related to differences in children's performance on the tested measures. Because data were skewed, non-parametric tests were used for the analyses. Gender-related differences were examined using the Mann-Whitney U test and differences between the three year groups using the Kruskal-Wallis test. Results are presented in the following sections and Appendix 8i and 8ii include the tables with the analyses.

8.3.2.1 Differences in the profiles of participating children as a function of gender.

The overrepresentation of boys relative to girls in this sample (approximately 2.5:1) reflected figures found in the current literature and evidence that gender is associated with the greatest increase in risk for language difficulties. However, in this particular sample overall results indicated that gender did not exert a significant influence on the children's performances for both LI and TD groups on all tested measures. No statistical significant differences were found between cohorts. There was only one exception in the effect size of the Conduct problems scale between

boys and girls in the LI cohort ($U=52$, $p =.048$),with girls being more likely than boys to experience conduct problems.

8.3.2.2 Differences in the profiles of participating children as a function of school year.
The analysis yielded a number of statistically significant differences suggesting the presence of year group effects. However, effect sizes indicated a moderate effect. Overall, there were three statistically significant differences by year group in the linguistic profiles of the LI cohort and two in their emotional and social profiles. In particular, LI children were found to have statistically significant mean scores differences by year group in DVIQ total ($\chi^2 = 8.03$, $df = 2$, $p = .018$), Word Production ($\chi^2 = 10.35$, $df = 2$, $p = .006$) and Language Comprehension ($\chi^2 = 7.14$, $df = 2$, $p = .028$), with older students achieving better performances than younger ones. However, differences were more notable from Y1 to Y2 than from Y2 to Y3. Emotional symptoms and Prosocial behaviour were also found to differ significantly by year group ($\chi^2 = 9.83$, $df = 2$, $p = .007$ and $\chi^2 = 9.36$, $df = 2$, $p = .009$ respectively). Students in Y1 were more likely to experience emotional symptoms than older students. Prosocial behaviour was also more problematic in younger children but improved significantly in Y2 and Y3.

For TD children, year group differences were reported for the same measures as with LI children. Scores on DVIQ total differed significantly by year group ($\chi^2 = 6.99$, $df = 2$, $p = .030$) along with Word production ($\chi^2 = 7.41$, $df = 2$, $p = .025$) and Language comprehension ($\chi^2 = 6.80$, $df = 2$, $p = .033$), with older children achieving significantly better performances than younger ones. As with the LI group above, differences were more notable from Y1 to Y2 than from Y2 to Y3. Conduct scores also changed significantly over the years ($\chi^2 = 8.69$, $df = 2$, $p = .013$), with younger students appearing more likely to experience conduct problems than older students

8.3.3 Profiles of need of children in the LI cohort compared to typically developing peers
CPM and DVIQ data were transformed to z-scores to describe the profiles of students in the LI cohort and their TD peers. SDQ scores were compared to test norms. The following sections include the results separately for every tested

measure. Figures 8.1. and 8.2 below were purposefully designed to contain individual scores so as to accurately portray children's profiles.

8.3.3.1 Cognitive profiles

Children's z-scores on CPM are illustrated in Figure 8.1 below. Results showed that there was variation in the nonverbal abilities of LI children. Performances ranged from average (or above average) to low levels of nonverbal ability. In particular, 25 LI children (83%) achieved scores within 1 SD either side of the sample mean whereas 5 children (17%) scored more than 1 SD below mean, indicating lower cognitive abilities than the rest of the cohort. Children in the TD group also had varied performances but all were within average range. Nine pupils (30%) scored within 1 SD below the sample mean whereas the remaining 21 children scored above the 84th centile, thus achieving high performances. Between cohorts comparisons with one-way Analysis of Variance showed that cognitive differences were statistically significant, $F(1, 57) = 18.61$, $p < .05$, $\eta^2 = .246$ and further indicated a main effect of age but no interaction with student group.
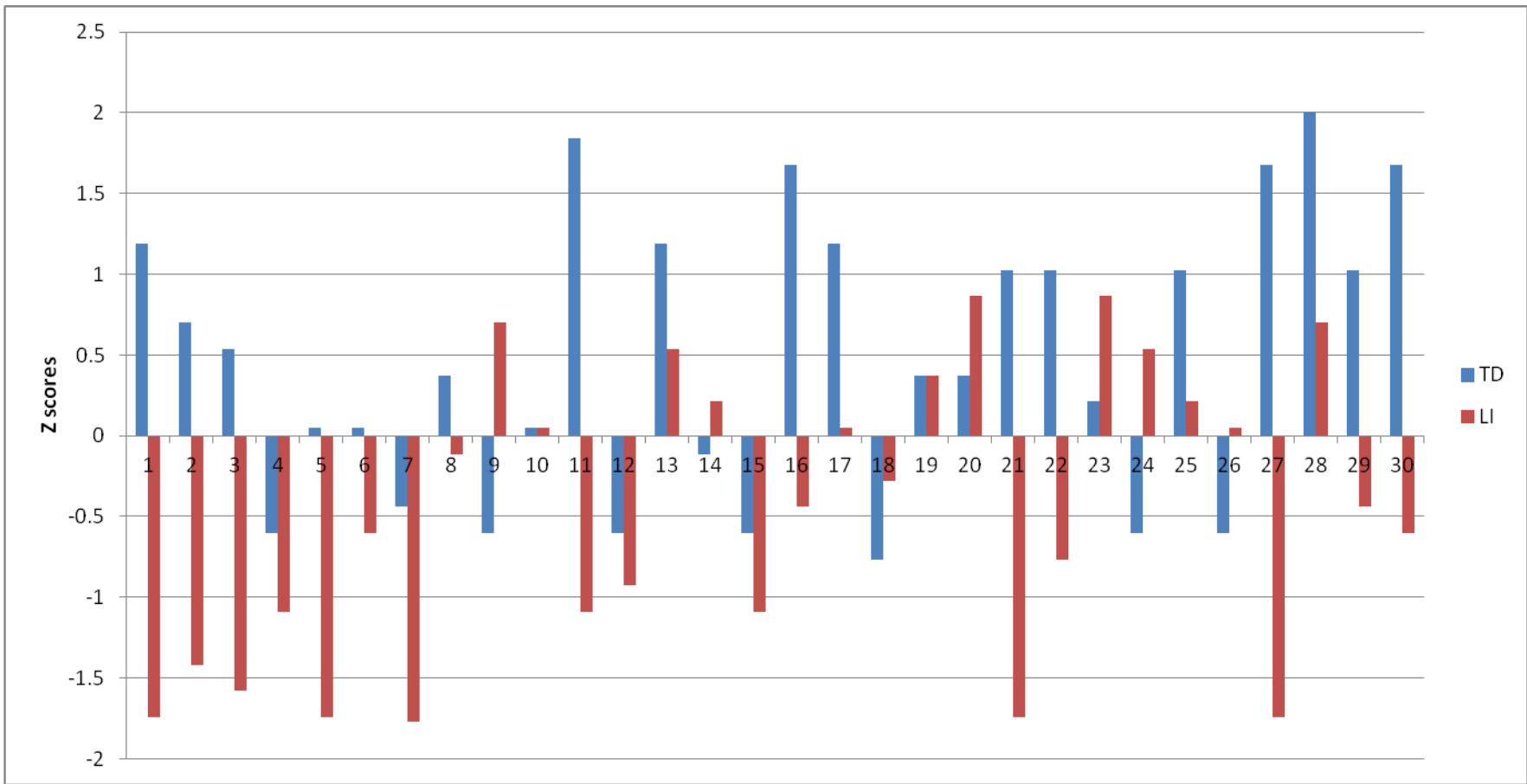
Figure 8.1 Performances of the two groups on the cognitive measure
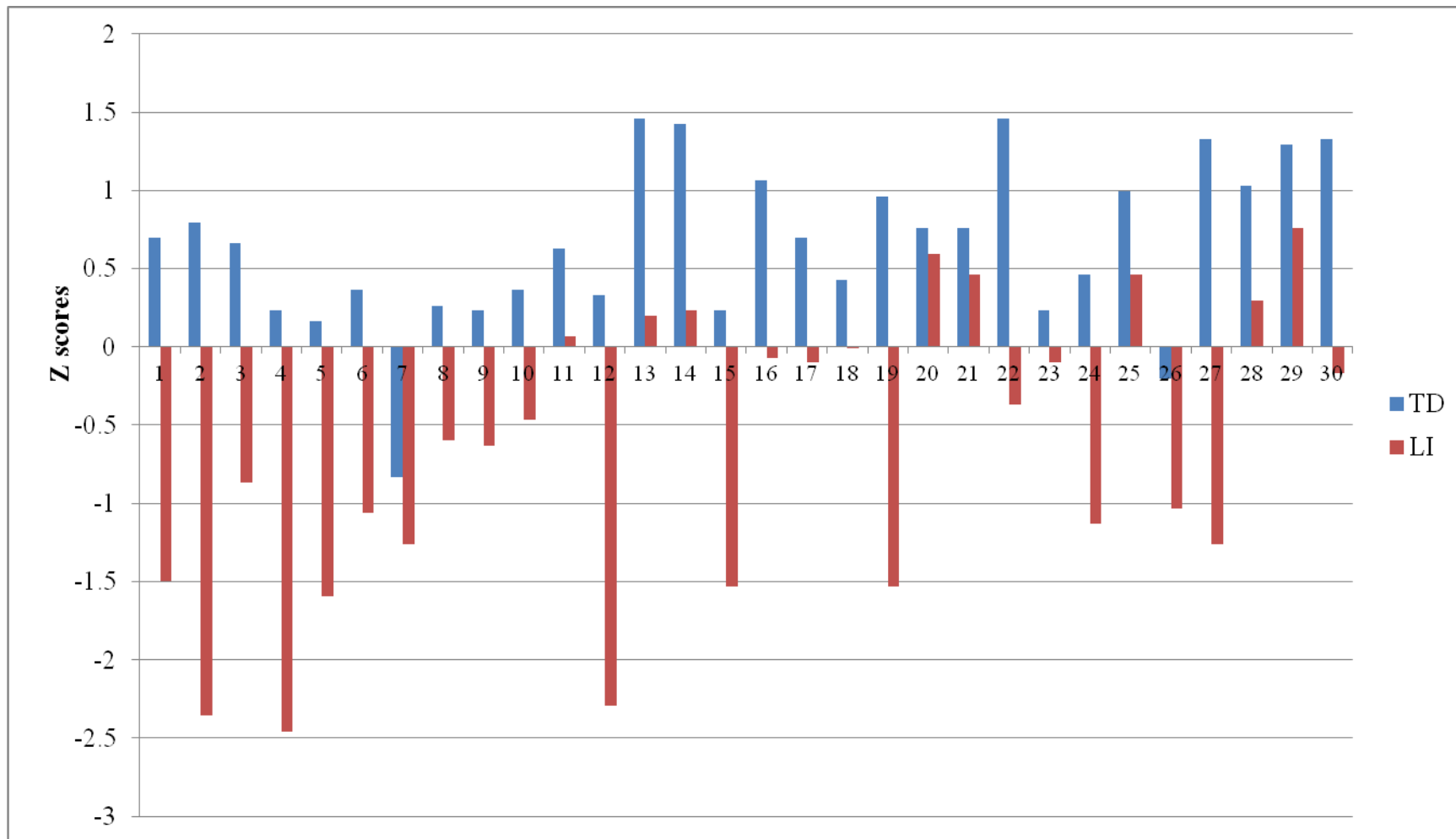
Figure 8.2 Performances of the two groups on total DVIQ measure

8.3.3.2 Linguistic profiles

The linguistic profiles of LI and TD cohorts were described, based on DVIQ standard scores. Figure 8.2 presents an illustration of the profiles of children based on z-scores for the DVIQ total measure and Table 8.2 further presents a categorization of results for all DVIQ subtests.

Table 8.2 Comparative results of DVIQ total and subtests for LI and TD groups (cases overlap)

Test	LI (N=30)			TD (N=30)			
	Below 16th centile	Within 1 SD		Below 16th centile	Within 1 SD		Above 84th centile
		Below mean	Above mean		Below mean	Above mean	
DVIQ total	12 (40%)	10 (33%)	8 (27%)	-	2 (7%)	20 (66%)	8 (27%)
Word Production	8 (27%)	14 (46%)	8 (27%)	-	2 (7%)	23 (76%)	5 (17%)
Morphology	9 (30%)	11 (37%)	10 (33%)	1 (3%)	2(7%)	20 (67%)	7 (23%)
Morphosyntax	10 (33%)	13(44%)	7 (23%)	1 (3%)	2 (7%)	22 (73%)	5 (17%)
Comprehension	9 (30%)	10 (33%)	11 (37%)		6(20%)	15(50%)	9 (30%)

Overall, results revealed variations in the scores of the LI cohort, suggesting inconsistency in children's performances. In particular, as seen in Table 8.2, less than one third of the children (8 pupils, 27%) managed to exceed mean range but the remaining achieved scores below sample mean or below the 16th centile, indicating the presence of language difficulties for the majority of the LI group. However, total scores may mask variation in children's performances (Charman et al., 2015) and the heterogeneity of language difficulties. Thus, as seen in the table, variations were even more notable in the subtests than in total scores reflecting the differing individual profiles of the needs of children experiencing such problems. However, data were only available for a single time period for each DVIQ subtest and therefore it was not possible to carry out a repeated measures analysis of variance for those subtests to examine which difference was more important among

the subtests and therefore percentages presented in Table 8.2 were used for comparison. Results showed that children in the LI cohort presented difficulties in structural language; Morphosyntax was the most problematic area, followed by Word Production and lastly Morphology. Comprehension was also impaired as approximately only one third of the LI cohort (37%) managed to score above the group mean. The findings corroborated questionnaire results on teacher-reported problematic areas of language development for children experiencing language problems. Questionnaire participants had also reported Morphosyntax, Morphology and Word Production as prominent problematic areas followed by deficits in Comprehension.

Participants in the TD cohort presented a different picture. More than two thirds of TD children (93%) scored higher than the mean or above the 84th centile in the DVIQ total indicating elevated performances on subtests in structural language and in comprehension. Variations were also notable in performances for the TD cohort but those were less wide than in the LI cohort and thus presented a more consistent picture of language development. However, as mentioned previously, those variations rather captured the diverse levels of strengths and weaknesses in the language competence of typically developing children which were not obvious when total language scores were documented. As seen in Table 8.2, two children performed below the 16th centile in Morphology and Morphosyntax in the TD cohort whereas six fell bellow the mean in the Comprehension subcomponent, suggesting discrepancies between teachers' evaluations and children's formal assessment. Word production was the subtest with the largest percentage of children achieving above average or higher performances, suggesting that it was an area of strength amongst the TD cohort.

Between cohort differences on raw scores were also examined with one-way analysis of variances and revealed depressed language skills for the LI cohort compared to their TD peers. Results indicated an overall effect of student group F (1, 57) = 94.84, $p=.010$ and a main effect of year group F (1, 57) =27.30, $p=.004$, but no interaction between those two variables for any of the subtotal and total scores. Follow up ANOVAs showed a statistically significant difference in the performances of the two groups across total DVIQ score, F (1, 57) =55.14, $p<.001$, $\eta^2= .492$, and across all 4 language subscales; Word Production F (1, 57) =44.74, $p<.001$ $\eta^2= .440$, Morphology F (1, 57) =28.37, $p<.001$, $\eta^2= .332$, Morphosyntax F (1, 57) =32.68, $p<.001$, $\eta^2= 364$ and Language Comprehension, F (1, 57) =38.52, $p<.001$, $\eta^2= .403$. An Analysis of Covariance controlling for CPM was also conducted, since there was a statistically significant difference in nonverbal IQs between LI and TD cohorts, as mentioned in the previous section. The results showed that even when nonverbal ability was controlled for, the difference in language scores between LI and TD groups remained statistically significant, F (1, 57) =20.86, $p<.001$, $\eta^2= .268$ and suggested that irrespective of cognitive abilities, language differences were a distinguishing factor between cohorts.

8.3.3.3 Behavioural, emotional and social profiles
To describe the behavioural, emotional and social profiles of the LI and TD cohorts, SDQ total and subtests scores were translated into the three risk categories of Normal, Borderline and Abnormal to allow comparison with test norms. Results were illustrated in Figures 8.3 and 8.4 below.
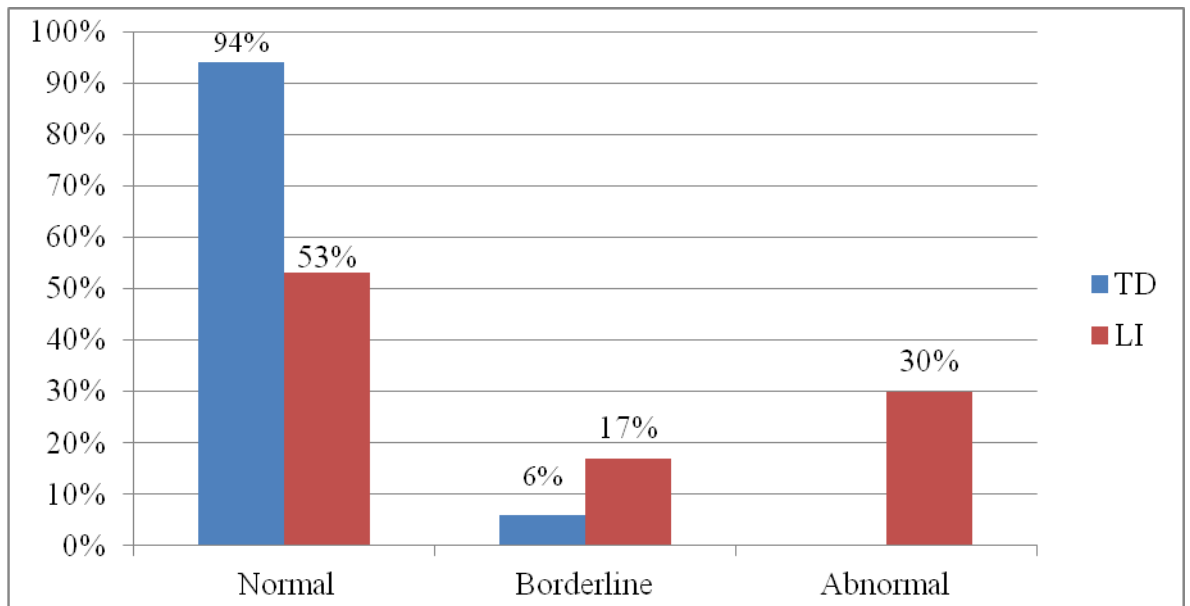
Figure 8.3 Risk categories for the two groups for total SDQ scores

Overall, as seen in Figure 8.3, the majority of pupils within the LI cohort were ranked within Normal or Borderline range, indicating that language difficulties were a risk factor for associated behavioural, emotional and social problems only for a subsample of children in the LI cohort. The distribution of SDQ total scores showed that children in the LI cohort had elevated levels of behavioural, emotional and social problems compared to the expected 10% based on test norms and also compared to their typically developing peers. Notwithstanding, the majority were ranked within normal and borderline categories. In particular, there were 16 pupils in the LI cohort (53%) who scored within the normal range and this percentage was lower than the test norm of about 80%, suggesting that more students in this mainstream sample faced difficulties associated with language impairment than test norms. Additionally, percentages of LI students who scored within the borderline (5 children, 17% of the LI cohort) and within the clinically significant abnormal range (9 children, 30% of the cohort) were higher than the test norms of about 10% suggesting that for a subsample of the LI cohort, language difficulties were a risk factor for behavioural, emotional and social interaction problems. By contrast, 28 (94%) out of the 30 pupils in the TD cohort fell within the normal range and two (6%) in the borderline based on their teachers' reports, indicating that social,

behavioural and emotional difficulties were less likely to be reported for typically developing language children.

However, as with the DVIQ test results presented in the previous section, aggregated total scores for SDQ may mask variations between the different subscales and therefore scores for SDQ subscales were also considered (Figure 8.4). Although the majority of students in the LI cohort, fell within normal and borderline bands in SDQ total scores, children reported to be in the Abnormal range presented Peer problems (9 pupils, 30% of the cohort) and of Hyperactivity issues (8 pupils, 27% of the cohort) followed by Conduct and Prosocial behaviour problems (7 pupils each, 23% of the cohort). Emotional problems were not a concern for the teachers of the LI pupils, as based on their reports 28 out of the 30 children (94%) scored within normal range, suggesting the absence of such difficulties in this mainstream sample. For the comparison group of typically developing children, teachers' reports placed almost all pupils within normal and borderline range for all SDQ subtests, showing that better language skills lessened the possibility of behavioural, emotional and social problems. However, there were two cases of pupils with clinically significant scores (abnormal range), one in the Emotional symptoms and one in the Prosocial behaviour scale.

One-way Analysis of Variance showed that the two groups differed significantly across total score, F (1, 57) =34.49, $p<.05$, η^2= .377 and the five subscales, Emotional symptoms F (1, 57) =7.69, $p<.001$, η^2= .119, Conduct problems F (1, 57) =16.20, $p<.001$, η^2= .221, Hyperactivity score F (1, 57) =22.86, $p<.001$, η^2= .286, Peer problems F (1, 57) =25.35, $p<.001$, η^2= .308, Prosocial behaviour F (1, 57) =8.36, $p<.001$, η^2= .128. When a Bonferroni correction was applied at the corrected .001 level, results similarly indicated that LI pupils' scores were significantly lower than those of their typically developing peers, thus further attesting to between cohort differences. The analysis also indicated that there was no main effect of age across total scores, F (1, 57) =0.16, $p = .69$, η^2= .003 and across the first four subscales, F (1, 57) = 0.33, $p = .56$, η^2= .006, F (1, 57) = 0.01, $p = .90$, η^2= .000, F (1, 57) =0.47, $p = .48$, η^2= .008 and F (1, 57) =0.01, $p = .91$, η^2= .000 respectively. For the fifth subscale, Prosocial behaviour, age was found to exert a main effect but

nevertheless this was not proven to be statistically significant, $F(1, 57) = .3.33$, $p = .07$, $\eta^2 = .006$.
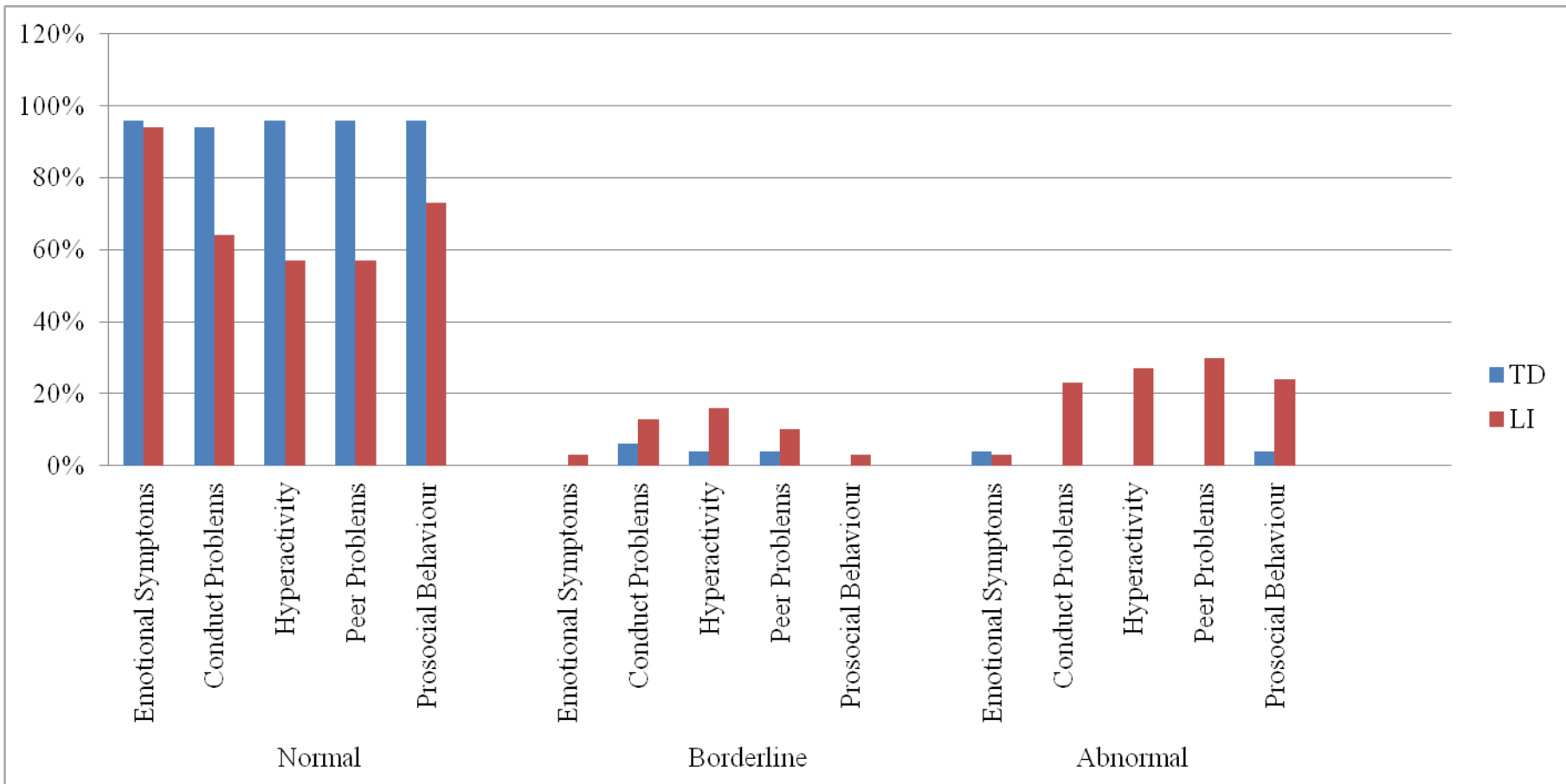
Figure 8.4 Risk categories for the two groups for SDQ subtests scores

8.3.3.4 Impact Supplement

Impact Supplement scores for the LI cohort was also classified in the three risk categories of Normal, Borderline and Abnormal range (Figure 8.5). Based on the teachers' reports, 4 children in the LI cohort (14%) fell within the borderline category but the vast majority (26 pupils, 86%) fell within the abnormal range in total scores, suggesting a counterproductive association between language difficulties and school well being. However, aggregated total scores presented a more problematic profile of needs than when separate subscales were examined. This was the case because when subscale scores were added to produce the total score, the sum resulted in a score higher than 2 and by corollary, children were ranked in the abnormal band. Notwithstanding, as previously, it was important to consider the individual profiles of need of children experiencing language difficulties when examining their strengths and weaknesses, so as to better profile their specific needs. For instance, as illustrated in Figure 8.4, 54% of children in the LI cohort were reported to be in the normal or borderline band for Peer interactions and this was in accordance with the teachers' reports for the majority of LI children in SDQ total scores mentioned in the previous section. By contrast, in the subscale 'Difficulties upset or distress the child' almost two thirds of pupils in the LI cohort fell in the abnormal range, suggesting that language problems experienced by pupils in this sample impinged on their emotional well-being. Additionally, teachers' reports on whether children's difficulties 'Interfere with classroom learning' suggested that *children with language difficulties* have problems which impact in classroom and that teachers acknowledge this adverse impact. Thus, Greek teachers were less likely to relate language difficulties to problematic peer relationships, indicating that they were more concerned with children's emotional well being and classroom attainment and less with intrapersonal relationships. The findings were in accordance with the questionnaire results on Greek teachers' awareness of the impact of language difficulties on children's school life. In particular, the majority of questionnaire respondents agreed on the impact of language difficulties on students' access to the curriculum,

on their emotional development and self-esteem but were less likely to associate such difficulties with limited peer relationships.
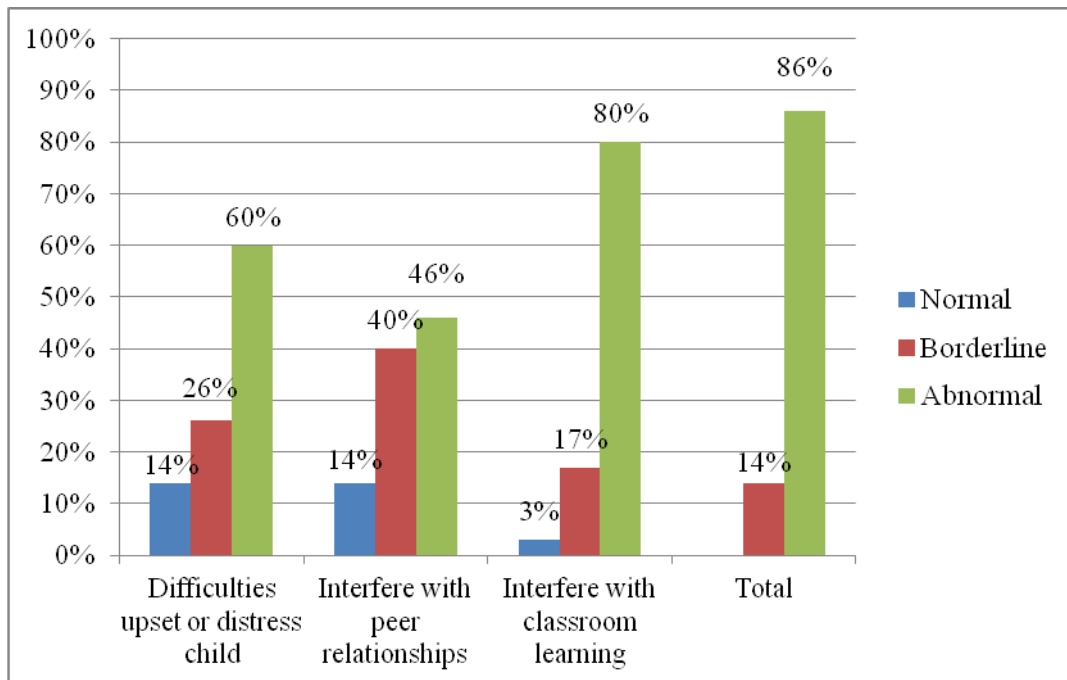
Figure 8.5 Risk categories for Impact Supplement total and subtests scores (LI cohort)

8.4 Associations between language competence and measures of nonverbal ability and of behavioural and emotional difficulties

To further illuminate the profiles of need of children in the LI cohort and to examine risk factors known to affect behaviour, a series of correlation analyses were conducted which examined potential associations between cognitive and language skills and emotional and behavioural difficulties. The same analyses were conducted for the TD cohort to allow for comparisons between groups. The following sections present the results.

8.4.1 Correlations between DVIQ language scores and variables of nonverbal ability, behavioural and emotional difficulties and impact on school life

Partial correlations, controlling for age for both groups, examined associations between DVIQ and CPM, SDQ and Impact Supplement findings (Table 8.3). Based on the results, total language scores were positively and strongly related to nonverbal ability at the .05 and .001 levels, both for LI children ($r = .41$, $p <.05$) and for their control counterparts ($r = .61$, $p <.001$), indicating that elevated levels of cognition are associated with higher performances in the language measure and vice versa. Associations remained the same when Bonferroni corrections were applied at the .007 significance level. However, this was an expected finding as ANOVAs had previously shown that the two groups differed significantly in nonverbal IQs and even when this variable was controlled for, statistical differences in DVIQ scores remained significant. LI and TD groups did not differ in correlations between nonverbal ability and subcomponents of the language measure, suggesting that levels of cognitive ability are associated with language skills. In particular, for both cohorts, associations were significant between nonverbal ability and Morphology and Comprehension, providing some evidence for lower levels of nonverbal ability to be a risk factor for problems in structural language and in understanding language and the opposite.

Associations were examined between language competence based on DVIQ total raw scores and emotional and behavioural difficulties for both groups. None of the correlations reached significance levels, indicating that language skills were not associated with behavioural, emotional and social difficulties in this particular sample. This was an expected finding as most of the students in the LI cohort had been ranked within Normal range whereas elevated levels of behavioural, emotional and social difficulties were only evident in a specific number of students ranked in the Abnormal range. Results again revealed a similar pattern of associations for LI and TD cohorts but at differing levels. Associations between SDQ subtests and specific aspects of the language system were also examined and are presented in Section 8.4.2 below.

A different picture emerged for associations between language skills and impact on children's academic performance and well being at school in the LI cohort. Those

were all strong negative associations, highlighting that poorer level of structural language and of comprehension were a risk factor for LI children's academic performance and well being at school.   Further associations with Impact Supplement subscales were also explored and are presented in Section 8.4.3 below.

Table 8.3 Correlations controlling for age between DVIQ , CPM, SDQ total and Impact total for TD above the diagonal and LI below and diagonal

	1	2	3	4	5	6	7	8
1.DVIQ Total Score	-	.22	.60**	.63**	.93**	.61**	-.09	.
2.Word production	.82**	-	-.47**	.04	.21	-.10	-.08	.
3.Morphology	.88**	.68**	-	.31	.46*	.57**	-.16	.
4.Morphosyntax	.74**	.51**	.62**	-	.41*	.09	.08	.
5.Comprehension	.94**	.69**	.70**	.64**	-	.67**	-.05	.
6.Raven's Colored Matrices	.41*	.34	.37*	.18	.40*	-	-.25	.
7.SDQ Total Difficulties Score	-.27	-.24	-.16	-.08	-.32	-.50**	-	.
8.Impact Supplement Total score	-.64**	-.50**	-.59**	-.51**	-.59**	-.28	.35	-

*p<0.05; **p<0.01; p<0.001

8.4.2 Correlations between SDQ subtests scores and variables of nonverbal ability, language competence and impact on school life.

Teacher-completed SDQ subtests scores for both groups were examined for associations with DVIQ total scores and subtests so as to investigate whether language impairments in specific aspects of the language system were a risk factor for emotional and behavioural difficulties. Associations were also examined with nonverbal ability as this is a child characteristic known to affect behaviour. Partial correlations, controlling for age, were computed and the LI group's scores were additionally examined for correlations with the Impact supplement. Results for the LI group did not yield any significant associations when Bonferroni corrections were applied at the .006 corrected level. Thus, cognitive and language skills were not strong concurrent predictors of emotional and behavioural problems in this sample. The same was also true for associations between the Impact Supplement and SDQ subtests, similarly indicating that LI children's well being at school was not directly associated with the children's profiles of emotional and behavioural development. Associations were also not significant for the TD cohort, again suggesting no interaction between within child characteristics such as nonverbal IQ and language skills and the presence of behavioural and emotional problems.

8.4.3 Correlations between Impact Supplement scores and cognitive, linguistic and behavioural profiles of LI children

The linguistic profiles of children in the LI cohort evaluated by the DVIQ and teachers' reports on the Impact Supplement subtests were examined for associations as language skills are known to influence children's academic performance and general school well being. Greek teachers had previously reported that 86% of children in the LI cohort faced difficulties that had an adverse impact on their school attainment but depending on the subscale, percentages varied. Partial correlations controlling for age were computed and are presented in Table 8.4 below. As mentioned previously, there were strong, negative associations between Impact Supplement total scores and all four DVIQ subtests reflecting the adverse influence of impoverished language skills on children's school life. However, when Impact Supplement subtests were examined for associations with aspects of the language system, a mixed picture of correlations emerged reflecting what is suggested in the literature about the complexity of the relationship between

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language difficulties and BESD which results in diverse impact on various aspects of children's development. For instance, peer relations were more likely to be influenced by problems in structural language and in comprehension but not by word production difficulties. Similarly, classroom learning was more likely to be related to structural language competence than to comprehension and to vocabulary whereas children were more likely to be distressed or feel upset when they had impoverished lexical and grammatical skills and deficits in comprehension.

Table 8.4 Correlations controlling for age between Impact Supplement and CPM, DVIQ total and SDQ total for the LI group

	1	2	3	4	5	6	7	8
1.Impact Supplement Total score	-							
2.Difficulties upset or distress child	.84**	-						
3.Interfere with peer relationships	.82**	.75**	-					
4.Interfere with classroom learning	.72**	.52**	.59**	-				
5.Word Production	-.50**	-.37*	-.29	-.33	-			
6.Morphology	-.58**	-.52**	-.42*	-.38*	.68*	-		
7. Morphosyntax	-.51**	-.33	-.50**	-.46*	-.51**	.62**	-	
8. Comprehension	-.59**	-.62**	-.40*	-.35	.68**	.70**	.64**	-

*p<0.05; **p<0.01; ***p<0.001

8.5 Teachers' evaluations of the profiles of need of students in the LI cohort

Teacher-documented areas of language difficulties for children in the LI cohort were compared with the children's performance on the DVIQ subtests. The analysis sought to examine levels of agreement or to reveal discrepancies between teachers' evaluations and the outcome of children's formal testing. The following sections present the results.

8.5.1 Levels of agreement between teachers' reports on the profiles of need of LI students and results of the language measure

Results were presented in Table 8.5 above and were further illustrated in Figure 8.6. Cases presented in both the table and the figure overlapped, as for most of the students teachers reported more than one problematic language areas. Darker areas in the figure reflect consistent identification.

Table 8.5: Number of teachers' references to problematic language areas and DVIQ results (LI cohort)

	Identified by teachers (cases overlap)			Identified by DVIQ (cases overlap)			Consistent identification (identified by teachers and DVIQ)		
	Y1	Y2	Y3	Y1	Y2	Y3	Y1	Y2	Y3
Vocabulary	8	9	7	9	3	5	8	3	5
Morphology	4	9	5	6	4	6	4	4	5
Morphosyntax	4	9	5	6	5	6	4	5	5
Comprehension	7	8	7	8	3	6	7	3	6
Column totals	23	35	24	29	15	23	23	15	21

As seen in Figure 8.6, overall findings indicated that there was partial agreement between tests results and teachers' reports on the profiles of need for Y1 students, notable discrepancy for Y2 students and almost perfect agreement for older children in Y3. The results probably reflected teachers' misunderstandings of language difficulties and of the boundaries with TLD or confusion of language difficulties with other developmental difficulties such as dyslexia in early primary school years. Results for Y3 suggested that teachers in general may have crystallized their views about which language features may denote language impairment.

More analytically, discrepancies for Y1 students were not large. Teachers tended to be more cautious as they reported fewer cases of problematic areas for their students than those documented by the tests, indicating perhaps allowance for age in Y1 in their estimations. By contrast, discrepancies were substantially larger for Y2 children, indicating confusion in teachers' evaluations. Based on their views, almost all Y2 children faced problems with structural language and with comprehension but testing with the DVIQ indicated fewer cases for all aspects of the language system. However, results for Y3 yielded a different picture as there was almost perfect agreement between teachers' evaluations and tests scores, suggesting that Greek teachers were more confident and successful in profiling the needs of Y3 *children with language difficulties*.

Year 1

Year 2

Year 3
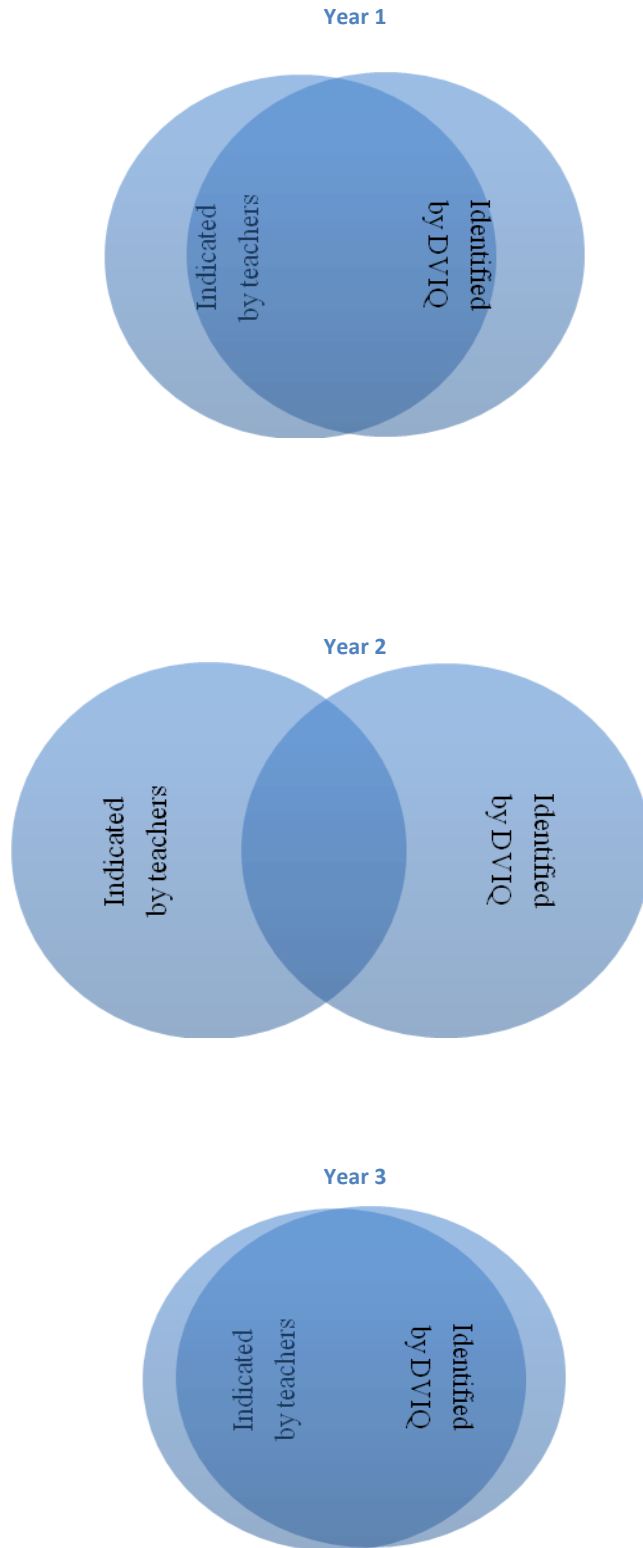
Figure 8.6 Overlap between teachers' evaluations and results of the language measure

Finally, in terms of which areas of language development teachers reported as being more problematic within the LI cohort, Vocabulary was their most common reference as it was reported for 80% of children. Teachers participating in the exploratory interviews had also highlighted impoverished vocabulary skills as a prominent area of deficit for *children with language difficulties* and stressed that their language learning techniques mainly focused on vocabulary growth. Questionnaire results on instructional practices also corroborated the finding. Text comprehension was the second problematic area reported by teachers (73% of children in the LI cohort) followed by morphological (53%) and morphosynatctical deficits (53%).

8.5.2 Typically developing children and results of the language test

Overall, there were   fifteen cases of children in the TD cohort (two cases overlapped) who scored below average levels compared to the sample mean scores in one or more DVIQ subtest (Table 8.6). Problems were more evident in the Y1 subgroup, mirroring perhaps moderate and temporary language difficulties that are more common in the early years of primary school. However, apart from one Y3 child who scored almost 2SD below the mean in Morphology, the remaining children scored within 1SD below the mean, indicating performances within average range. Language comprehension proved to be the most challenging area for Y1 TD children as half of the participating students' scores fell below average. The findings probably reflected teachers' misconceptions and confusion about TLD.

Table 8.6   Numbers of children in the TD cohort who scored below average in DVIQ subtests

	Y1	Y2	Y3
Vocabulary	2		
Morphology	1		2
Morphosyntax	2	1	
Comprehension	5	1	1
Columns total	10	2	3

8.6 Summary of the results and discussion

The scope of this chapter was to validate Greek teachers' ability to identify *children with language difficulties* timely and accurately. To do so, a purposefully chosen sample of Y1, Y2 and Y3 students were formally assessed with tests and their performances were subsequently compared to their typically developing peers and with their teachers' evaluations. Results are first discussed with regard to students' clinical evaluation and then with regard to teachers and their ability to identify language difficulties. However, in some points, results may overlap.

Students' profiles of need

Language skills

First, results verified the presence of *children with language difficulties* in mainstream schools as documented in the literature review (Dockrell and Lindsay, 2000; Dockrell et al., 2014; Dockrell et al., 2012b). It was expected that there would be larger and narrower subsets of children presenting problems with varying levels of difficulties in different domains of the language system. Indeed, results revealed cases of students whose language scores indicated the presence of moderate language difficulties and others whose scores suggested the presence of more profound language difficulties or risk of SLI. It was also hypothesized that there would also be weaknesses amongst typically developing children in various domains of the language system and results verified the hypothesis.

Based on the particularities of the Greek language, it was also expected that problematic areas of language development would primarily involve structural language. Results verified the hypothesis as children were found to experience more problems with morphology and syntax, followed by word production and comprehension difficulties. Typically developing peers, on the other hand, had elevated scores on all tested measures. However, there were also weaknesses and this was reflected in the cases of typically developing children whose scores in some of the subtests of the DVIQ measure fell below average. Results, then verified the literature that all children have language learning needs at different levels and domains.

With regard to gender, as a risk factor for language difficulties results indicated a mixed picture. Although the number of boys indicated by their teachers as experiencing language difficulties was almost 2.5 times higher than the number of girls, performances on tested measures did not differ significantly between boys and girls. It could be inferred, therefore, that frequency of occurrence was dependent on gender but the severity of language difficulties and of associated BESD did not differ between affected boys and girls. School year differences, on the other hand, were more evident indicating first that profiles of need differ across school years but also that teachers have a more crystallized view of TLD and of LD and therefore become better judges of their students' competence. .

Results in performances varied notably within and between cohorts, reflecting inter- and intra-individual variation and overall sample differences. As anticipated, between cohorts comparisons showed that the two groups of children differed significantly in their performances on cognitive, linguistic and behavioural measures and verified the presence of language impairments in this mainstream sample in various aspects of the language system. Scores for the LI cohort were lower than the sample means for all tested measures and indicated depressed performances compared to typically developing peers. Within the LI cohort, there were also large standard deviations, mainly in the language measure, indicating significant variation in performances and reflecting the well documented heterogeneity of language impairment and the broad category of individual needs it involves.

Cognitive ability

Nonverbal ability was found to be significantly associated with performance on the language measure for cohorts, indicating that cognitive and language skills are related. However, results revealed variation in performances from low to above average levels and thus showed that language difficulties can occur across the IQ spectrum. However, the fact that five children in the LI cohort scored more than 1SD below sample mean but teachers had not previously indicated problems with

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NVIQ, suggests that teachers did not associate children's general cognitive ability with the presence of language difficulties. Previously, findings of the exploratory interviews and terminology used in the questionnaire pointed to the same direction. Based on what was mentioned previously in Section 2.12 about new approaches to diagnosis and identification of language difficulties included in the DSM-5, it seems that the study's findings reflect these advances. The indication is then that teachers themselves are more interested in the educational needs of children facing problems with language than in labelling their difficulties, thus inclining towards a needs-based approach to children's difficulties.

Behavioural, emotional and social difficulties

Behavioural, emotional and social interaction problems were also examined in both cohorts. Profiles differed across the five SDQ subscales and across the two groups. In general, the majority of LI children in this mainstream sample were not found to have substantial behavioural and emotional problems even though their scores were elevated compared to the typically developing counterparts. However, there were substantial problems in the subgroup of LI children who were ranked in the clinically significant abnormal scale. Prevalence rates of associated difficulties were higher in this subgroup for Peer relationships problems, followed by Hyperactivity and last Conduct and Prosocial problems. Emotional problems, though, were a rarity in both groups. Taking into consideration that peer problems indicate difficulties in social interaction and also that the literature suggests that *children with language difficulties* (in particular *children with SLI*) may also present pragmatic difficulties, it is possible that those children who scored in the abnormal range, were children with PLI or children in the autistic spectrum. On the other hand, combined results in the identification of *children with language difficulties* (Section 7.4.5) revealed misconceptions and showed that Greek teachers referred to 'autism' when asked to provide a terminology for children with oral language difficulties. It could be inferred therefore that when asked to indicate such children, Greek teachers were also picking up children in the autistic spectrum.

Children's scores were further tested for associations between language skills and the presence of BESD, but no strong associations were found, indicating that

structural language difficulties are not a key factor for BESD. However, this was not an unexpected finding. Studies have documented a complex pattern of interrelations between aspects of the language system and BESD (Lindsay and Dockrell, 2012b)but have failed so far to establish a consistent picture of those associations (Charman et al., 2015). Contrary to SDQ associations with language skills, associations between levels of language development and impact on school life were all found to be significantly correlated.   Typically developing peers were not found to have associated difficulties with the exception of individual cases in various SDQ subscales.

The impact of language difficulties on the children's academic attainment and school well- being was found to be substantial, based on the teachers' reports. Impact on classroom learning and on the students' emotional well-being was of great concern to teachers for the vast majority of the children in the LI cohort but impact on peer relationships was shown to be of less concern. The finding though could reflect outcomes of the interviews and of the questionnaire which showed that Greek teachers had limited knowledge of pragmatics as an aspect of language development and paid less attention to children's communicative skills. It is likely, therefore, that they are unaware of the association between peer relations, social interaction and communication skills. However, results also revealed a marked contradiction. At the same time that teachers ranked 21 out of the 30 children in the LI cohort (70%) within normal and borderline range in the SDQ total score, they ranked 86% of the children within abnormal range in the Impact Supplement. Thus, on the one hand they did not perceive their students to present significant BESD but on the other, they recognized that the impact of language difficulties on their school life is immense. If this finding is combined with the very few references made to BESD as associated problems to language difficulties in both the interviews and the questionnaire, then there is a strong indication of limited awareness of such associated problems and of secondary importance attributed to them. Based on the influence of the strict academic curriculum that has been well documented throughout this thesis, it is not surprising that other than academic needs are not fully appreciated and credited by teachers.

Teachers' evaluations

Based on hypotheses from interviews and questionnaire findings, results on teachers' evaluations of their students linguistic profiles were, in broad strokes, positive and encouraging. Although there were a number of inconsistencies in their evaluations, reflecting a degree of confusion and misconceptions, the LI children they indicated, did present language difficulties and the TD children did not. Almost all children identified by teachers as language impaired were found to have language difficulties and this indicated that they picked up children who either had or were at risk of language impairment. All children in the TD cohort were found not to experience any significant problems. The finding reflected results of the questionnaire survey where Greek teachers showed greater awareness of TLD than of language difficulties and results of the interviews where teachers reported feeling confident in identifying children at risk at an early stage. However, teachers' views of the exact nature of language difficulties and of the affected areas of the language system for children in the LI cohort were inconsistent with formal assessment, suggesting misconceptions and false attributions of individual children's profile of needs to an extent.

 Teachers' ability to accurately identify language needs was found to be related to children's school year. In particular, teachers were more likely to identify students at risk in Y3 and to accurately portray individual needs. Given the fluidity of language skills in preschool and early school years, it is likely that teachers cannot be certain of the presence or not of language difficulties earlier. Teachers were also likely to identify Y1 students and to describe their needs but there was a trend towards leniency, suggesting perhaps allowance for age in their evaluations. For Y2, however, formal assessment results did not validate teachers' estimations as there was notable discrepancy between the problematic areas they indicated and language test performances. The Discussion chapter addresses this finding further.

8.7 Conclusion
 Between cohorts comparisons showed that the two groups of children differed significantly in their performances on cognitive, linguistic and behavioural measures and verified the presence of language impairments in this mainstream

sample in various aspects of the language system. Results revealed varying profiles of needs within the LI cohort and diverse profiles of strengths and weaknesses within the TD cohort. Larger and narrower subsets of children presenting language difficulties were identified in the LI group, thus suggesting a spectrum of language difficulties in young children. Gender and school year differences were examined as risk factors for language difficulties. Gender was found to influence frequency of occurrence but not severity of the impairment whereas school year did have an impact on the children's profiles of needs. With regard to NVIQ, findings attested to the presence of language difficulties across the IQ spectrum in the LI cohort. Cognitive profiles, however, also varied within the TD cohort, thus suggesting that language skills may not have a linear relationship with nonverbal ability. Behavioural, emotional and social difficulties were only attributed to a subgroup of children in the LI cohort but no associations were found with language performances. By contrast, language skills were strongly correlated with impact on school life in terms of classroom learning and of students' emotional well-being but not in terms of peer relations. Teachers' evaluations were found to be more accurate for Y1 and Y3 children but significantly discrepant for Y2 children, thus reflecting confusing views in transition school years.

Chapter 9 Discussion and conclusions

9.1 Introduction

This chapter presents a synthesis and discussion of the results included in Chapters six, seven and eight. Its aim is not, however, to re-state the results, but to present a more comprehensive account based on the combination of the three research phases so as to provide possible explanations and to draw inferences. The pluralism of the results presented in this thesis was the outcome of the detailed mixed methods approach adopted in the study. Stages progressed, data were added, new research questions emerged and the study evolved guided by a sequential exploratory design. It is a conviction of the researcher that this thesis would not have been as fruitful if it had followed a different methodological approach. Thus, the first section in this chapter provides a brief synopsis of the mixed methods approach by linking the overall results to the research phases. Following, a synthesis of the results is presented. The chapter continues with the research limitations and finishes with educational implications and recommendations for future research.

9.2 Overview of the MM approach adopted in the study

The present study followed Teddie and Tashakkori's (2009) integrative framework of inference quality in mixed methods research throughout its entire design and implementation stages (see Chapter 4, Tables 4.2 and 4.3). This was done to reduce any inconsistencies when assessing quantitative and qualitative inferences generated in separate research strands. The process that was followed was to elaborate respective quality criteria and standards and then to evaluate the degree to which the meta-inferences deducted from the entire study are indeed credible (Ivankova, 2014). To do so, it was crucial to determine where and how to mix the quantitative and qualitative strands of a study. Mixing or integration can occur within or across one or more stages of the research process or in the interpretation stage (Creswell & Plano Clark, 2007) and, for the present thesis, mixing occurred during the sampling process, during data collection and data analysis procedures and in the final interpretation stage. However, mixing in MM designs is not a similar process to triangulation; i.e. it is not just a process of synthesizing the findings of the different research strands because this would pose a threat to the integrity of the

study as a single project. Instead, MM designs bear a critical underlying 'add-on' feature that is unique to any given MM design. This underlying feature is the internal logic, an 'epistemological link' (Miller and Gatta, 2006, p. 601) that links the research phases in any MM design so as this design becomes a totality, a distinct unit of analysis that is best suited to the study of a particular research problem. In the present thesis, the underlying epistemological links that connected the three phases were clearly defined and included the statistical findings which led to a sequence of further statistical analyses and the methodological and conceptual implications that every phase built to the next one, as those were presented in the three results chapters, 6, 7 and 8.

Briefly, the study employed a sequential exploratory mixed methods design consisting of three research phases. The purpose of Phase 1 served the theoretical perspective of the study as it aimed to get at 'subjugated knowledge'(Hesse-Biber, 2010, p. 463) of an issue that had not been explored in previous research within the Greek educational context. Thus, the interviews explored issues from individuals' perspectives and provided topics for a larger quantitative study. Survey questions were informed based on Phase 1 participants' responses and questionnaire items were adapted accordingly (1st point of interface in mixing methods). Data was analyzed and findings were discussed. The hypotheses that emerged were noted. For instance, it was hypothesized that Greek teachers would confuse language difficulties with other wider known developmental disorders and that their language teaching strategies would reflect the strictly academic Greek curriculum.

The survey tested the generalisation of the interviews' findings to a wider population. In addition, the survey provided the opportunity to test out some hypotheses and assumptions generated by the exploratory interviews. Results showed contradictions and misconceptions that carried important educational implications. Those contradictions and misconceptions were followed up with an additional quantitative strand; a further validation of teachers' perceptions in terms of their ability to timely and accurately identify *children with language difficulties* in mainstream provision (2nd point of interface in mixing methods). A purposive sample of children indicated by teachers was chosen for Phase 3. Results from the

three research phases were then combined and interpreted to reflect the study's diverse research perspectives (3rd point of interface in mixing methods). In essence, the three phases completed a circle of evidence and of reflections drawn from diverse data sources based on an integrative model of research methodology.

9.3 Synthesis of results of the three research phases based on research questions

Results are presented here in more comprehensive sections than in the three results chapters. Findings from the three research phases are combined in order to present more holistic outcomes. Consequently, themes in the sections overlap, but this was purposefully done to highlight the points of inference in this mixed methods approach and how they contributed to the final research outcome.

9.3.1 Inclusion

9.3.1.1 Combined results and discussion for Greek teachers' attitudes towards inclusion

 The theoretical perspective for the study was based on the social constructivism theory with the aim to explore 'the multiple social constructions of meaning and knowledge' (Robson, 2002, p. 27) by relying as much as possible on the participants' perceptions of the situation under study. Thus, results discussed here mainly focus on teachers' role in supporting children's needs in an inclusive ethos. However, due to the interweaving nature of results and inferences, this is done gradually to the end of this chapter.

Results of Phase 1 indicated that although Greek teachers were in favour of inclusion in general, inclusion was not their primary concern for *children with language difficulties* as they felt that this group of children were already in mainstream provision. The finding has already been documented in the literature for *children with language difficulties* by Roulstone et al., (2012). By contrast, their concern was 'how' to teach this group of children. They acknowledged the challenges faced by *children with language difficulties* and were also able to describe their profiles of need to an extent – albeit not quite accurately- but were not confident enough in supporting their special needs so as to promote inclusion meaningfully. However, this is by no means a unique finding as the Greek literature

has indicated a well-documented tension between inclusion as an ideal and its implementation in practice. (Zoniou-Sideri et al., 2009). Phase 2 corroborated the finding with curriculum differentiation responses, as 50% of the sample teachers reported not to alter their teaching strategies to accommodate the needs of *children with language difficulties*.

Interestingly, interviewed teachers did not feel that their lack of training in SEN issues hindered implementation of inclusion. In particular, teachers acknowledged their lack of training in SE and this was in accordance with previous studies (Avramidis and Norwich, 2002; Salonikioti, 2009; Soulis, 2009; Tsakiridou and Polyzopoulou, 2014; Vlachou-Balafouti and Zoniou-Sideri, 2000), but they also reported that lack of training in SEN was not a major counterproductive factor in implementing inclusive policies. However, over the years, reviews of studies on inclusion have highlighted teachers' lack of training as a factor affecting teachers' views and as an adverse parameter to implementing inclusive programmes (Avramidis and Norwich, 2002; de Boer et al., 2010; Scruggs and Mastropieri, 1996). The finding corroborated results reported in the literature by Vlachou and Fyssa (Vlachou and Fyssa, 2016) (Section 3.6.2) as they also failed to establish a statistical significant relationship between teachers' training and the implementation of 'high', 'low' and 'minimal' quality inclusive programmes –even though 94.7% of special teachers in the sample possessed a long-term qualification degree in SE. Thus, the indication is that training in SEN issues may not be such a decisive factor in promoting inclusion. This was empirically reflected on the fact that Phase 1 and Phase 2 results did not document any differences in expertise between mainstream and special teachers in their understandings of language difficulties and in the ways they support *children with language difficulties*. The finding links back to what was reported in the literature review about the quality of Greek special education teachers' training (Boutskou, 2007), about implementation of inclusive programmes in mainstream provision (Vlachou and Fyssa, 2016) and about their own perception of being unprepared to meet the needs of *children with language difficulties* (Avramidis and Kalyva, 2007). There was also no diversity in the ways special and mainstream teachers approached language teaching and special teachers did not

mention setting any different targets for *children with language difficulties* attending support rooms.

However, training focused on language related issues could have the potential to make a difference. Surprisingly though, when specific training in language related issues was followed up in Phase 2, quantitative analysis also failed to establish an overall association between experience, extra degrees (degrees in SE included) and levels of awareness of TLD and language difficulties. However, when followed up with qualitative items, it was revealed that what Greek teachers were referring to, did not constitute explicit training and hence no conclusive assumptions could be made. Therefore, the indication was that special teachers in Greece were no more prepared than general teachers to support the needs of *children with language difficulties.* Combined with the fact that *children with language difficulties* do not usually attend special classes, as the literature review and data presented in this study indicated, then it seems that it resides in the hands of general teachers to support their needs. The following sections exemplify this further.

9.3.2 Greek teachers' understandings of TLD and language difficulties
Overall, Greek teachers showed strengths in acknowledging the expected developmental norms for children with typical language development in the early years of primary education. Results also signified variations in their views but the majority was confident of what to expect in terms of language growth from students in Years 1, 2 and 3, thus reflecting to a degree what was referred to in the literature as explicit awareness of reference norms of TLD in this age group (Dockrell, 2001; Law et al., 2000a). Phase 3 complimented this finding in practice as teachers indicated a number of Y1, Y2 and Y3 children as having TLD and formal assessment with a language measure validated their estimations. Further, Phase 3 validated current evidence about larger groups of *children with language difficulties* and subgroups of children with more profound difficulties.

With regard to Greek teachers' understandings of language difficulties, Phase 1 clearly indicated lack of specific knowledge of terminology for *children with language difficulties* and confusion with other developmental difficulties such as dyslexia and autism. Quantitative data from Phase 2, generalised this finding as,

when teachers were asked to provide a definition for *children with language difficulties*, they referred interchangeably to problematic areas, to other developmental conditions, to social factors and to within-child characteristics. However, teachers were confident in identifying problematic areas in *children with language difficulties* and this was supplemented later with more quantitative data from the formal assessment process. Teachers were accurate in their indications of problematic areas for the majority of children in the LI cohort for Years 1 and 3. They made allowance for age in Y1 children but their views were crystallized in Y3. Disagreement was more evident in Y2 children, though. Such inconsistency may not be an unexpected finding, however. First, it could be attributed to the language measure used. Discrepancies between results of language tests and professionals' and parents' judgments of children's language difficulties are not rare in studies evaluating language skills (Law et al., 2011; Tomblin et al., 1997) and have raised concerns about whether language tests can truly capture important aspects of everyday communication (Bishop, 2014). However, the Sequential Exploratory Design of the thesis adds a different perspective based on the results of the previous phases. Teachers had previously reported dyslexia/literacy difficulties when asked to specify who children with oral language difficulties are. Some interviewees specifically stated that *children with language difficulties* are those who are left behind in literacy. Interviews and questionnaire, on the other hand, verified limited training, knowledge gaps and misconceptions in understandings of language difficulties. It could be possible, therefore, that teachers were picking up children with reading problems and/or dyslexia or children in the autistic spectrum and not *children with language difficulties*. That explains then why the DVIQ failed to detect language difficulties in the majority of Y2 children and limits the possibility of a measurement error. Children's formal assessment in Phase 3 provided a further indication of teachers having picked up children with other developmental difficulties as 9 children were ranked within the clinically significant abnormal range on the SDQ. Context may also have played a significant role in Greek teachers' false evaluations for Y2 children. The rigid and academically oriented curriculum poses great challenges to Greek students even in the early years of primary school. Y2 marks a transition stage from the lower grade of primary

school to one that is more demanding in terms of academic performance. Language textbooks in Y2 mark milestone changes in children's linguistic competence compared to textbooks in Y1. Taught units include long texts with complex vocabulary and children are asked to practise reading and comprehension skills on those texts. Grammar exercises accompany those texts and can be difficult and demanding for all children, as the Greek language is a highly structural language with complex morphology and syntax. Thus, both literacy and written practice can be challenging for Y2 children. It could be inferred, therefore, that even if children in Y2 experienced moderate language difficulties which could prove to be transient in the forthcoming years, those difficulties seemed exacerbated by their teachers when considered under strict academic competence and therefore probably resulted in misleading or false evaluations of children's language skills at this age. In turn, children feel more frustrated with their difficulties and hence, even more disappointed with their academic performances. Furthermore, quantitative analysis of teacher-related variables that might affect understandings of TLD and language difficulties had previously indicated that experience was not an influential factor. Taking that into consideration it is plausible to infer that even after years of working with children, teachers confuse the boundaries between TLD and elements that could be an indication of impairment mainly in transition school years, such as Y2. The fluid nature of language development, especially in younger children (Reilly et al., 2014a), the fact that language development is not always a linear process and that children's profiles of need may change over time (Dockrell et al., 2014) further attest to the confusion found in teachers' views and to the misconceptions surrounding language difficulties that have been documented in the literature and, by corollary, to the possibility that some of the children's language difficulties may be misunderstood and misinterpreted.

Greek teachers showed strengths in terms of acknowledging specific problematic areas for *children with language difficulties*, a finding that has also been observed before by Dockrell et al., (2012a) and in the Greek context by Salonikioti, (2009). However, some teachers were more specific in their descriptions, suggesting a more elaborate level of awareness whereas others merely used generic terms to describe language problems. At first glance, such a finding would show patchy knowledge

and lack of awareness for a number of participants. This is partly the case as the finding might also reveal two important parameters. First, taking into consideration some of the issues raised in the literature review about the possibility that *children with language difficulties* and *with SLI* in particular may fall in the lower end of the typical language spectrum, teachers' indications could reflect the broader group of *children with language difficulties* and the narrower groups of children with more severe problems or of *children with SLI*. One teacher commented that all children have language learning needs, thus further indicating that there are varying levels of language learning needs in mainstream classrooms. From that perspective, the prevalence rates reported by Greek teachers, which were higher than the estimated 7% documented in the literature, were probably not an overestimation. Presumably, teachers had larger groups of *children with language difficulties* in mind based on their everyday experiences and contact with students. Second, it reflects the wider diagnostic criteria for language difficulties included in DSM-5. Those criteria are not as specific as the ones presented in Chapter 2 but rather resemble the broader language problems described by the interviewees in this study. Taking it further, it could be inferred that such findings attest to a 'needs-based' approach (Dockrell et al., 2012b; Dockrell et al., 2006) and a 'functional' approach (Reilly et al., 2014a; Reilly et al., 2014b) to identification of language difficulties. It is no surprise then that Greek teachers did not see a direct connection between language skills and general cognitive ability. That could be because they come across cases of children that experience language difficulties irrespective of their NVIQ and therefore they do not consider the association as decisive as it has been suggested so far by theory. Thus, Greek teachers seem more likely to rely on the students' profiles of need to describe language difficulties irrespective of labels and diagnoses. The indication was then, that Greek teachers did not adhere to a medical model of disability that could carry potential stigmatization as also indicated by Dockrell et al., (2006).

9.3.3 Language particularities and context as factors affecting Greek teachers' understandings of TLD and language difficulties

Greek teachers' understandings of TLD and language difficulties tended to reflect the morphological and syntactical complexity of the Greek language and at the same time, the way language is approached and instructed within the Greek

educational system. Findings perhaps indicated or reflected impact of two parameters; language particularities and context. Interestingly, however, data presented here from Greek teachers and the Greek language reflected current advances included in DSM-5 about the diagnostic features for 'language disorder'. It is stressed in DSM-5 that 'language disorder usually affects vocabulary and grammar', i.e. word knowledge and use, limited sentence structure. It seems likely then, that Greek teachers were picking up on those difficulties which become even more evident in structural languages, like Greek, and within an educational context that focuses more on academic competence. DSM-5 similarly refers to impairments in discourse, i.e. ability to use vocabulary and connect sentences, connect sentences to explain or describe a topic or a series of events. Those were also picked up in the interviews but were not directly referred to by Greek teachers as communicational difficulties but were rather attributed a secondary role in their comments, again reflecting rigidities of the Greek educational system.

Data presented in the thesis, reflected yet another dimension of the current advances in the DSM-5.The manual signifies that language includes the form, function and use of a conventional system of symbols across modalities (e.g. spoken, written) and that language impairment may be present in the acquisition and use of language across modalities. Qualitative data from Phase 1 indicated that teachers' reported language difficulties expanded to problems with written language and literacy. Definitions of language difficulties provided in Phase 2 referred interchangeably to problems with oral language, written language and literacy. Teaching strategies documented, also referred to practice of oral and written skills interchangeably, albeit being more heavily biased towards the second. It can be inferred, therefore, that DSM-5 reflected what teachers see in practice; that language is a unified system with indivisible modalities that interrelate and shape children's language skills. It seems, therefore, that there is a trend towards a conception of a unified system of language difficulties across modalities. Recently, researchers have also supported this assumption. Nelson (2016, p. 229), for instance, argues that 'disorders affecting oral language and literacy development […] should be assessed together and treated as integrated, intertwined abilities' and that, failure to acknowledge overlap between language disorders and reading difficulties leads to

an artificial sense of distinction between them. Snowling and Hulme (2011) also see a simple conceptualization of reading as a mapping process between oral language and written language and argue that reading difficulties can be traced back to oral language weaknesses. As before, this is even more evident in a language with interweaving and interrelated aspects, like Greek. Very recently, Dockrell and Howell, (2015) and Dockrell and Lindsay, (2014) highlighted that in conceptualizing the language problems children experience, the views of educational professionals who work with the children should be considered and that teachers offer a unique perspective on the struggles the children have in accessing curriculum. Data presented above compliment and verify such views in practice and indeed indicate that teachers can be a source of information in relation to children's problems.

9.3.4 Teaching strategies to promote language development and to support the needs of *children with language difficulties*

The literature review showed that Greek educators use a significant variety of language teaching strategies (Salonikioti, 2009). It also showed that the interweaving nature of the aspects of the Greek language can enhance language growth in various ways. When interviewed, Greek teachers referred to difficulties in the structural language and this was an indication of acknowledging its particularities. Hence, it was hypothesized first, that survey teachers would also refer to a large variety of strategies and second, that they could be combining aspects of the Greek language to scaffold oral language development in a more focused, regular and nuanced manner that would include practice with morphology, syntax and vocabulary. The second hypothesis was barely verified in either Phase 1 or Phase 2. Although, it was possible to capture some indication of interventions that made use of the particularities of morphology and syntax in the Greek language, there was insufficient data to draw conclusions. Qualitative data from Phase 1 provided limited references but, nevertheless, elements in quantitative data from Phase 2 reflected what was referred to in the literature review as *educational linguistics*. Interestingly, those elements were characteristic of the particularities of the Greek language, thus providing an indication that some Greek teachers acknowledge the dynamics of language and scaffold language learning based on

that but it was not a common practice. If combined with the unified approach to language teaching and with the finding that teaching strategies did not differ across aspects of the language system, then the indication is that Greek teachers could incorporate morphological type features in their strategies but perhaps, they have not been trained or alerted to do so.

For the first hypothesis, results verified previous research studies reviewed in the literature (Law et al., 2012a; Roulstone et al., 2012). In general, teachers' reported strategies did not seem to differ from universal techniques for language instruction and did not constitute evidence-based interventions targeting specific aspects of oral language communication. Nor was there a strong indication of efforts to scaffold oral language learning. Teachers referred interchangeably to a wide variety of teaching techniques, of resources and of targets of interventions, like *'boosting confidence in talking'* and *'freeing up speaking skills'*, which were rather general and not direct language development targets. They distinguished teaching strategies, nevertheless, between broad age groups (younger and older children) but, clarified that they mainly targeted vocabulary growth for *children with language difficulties*. There were elements of practising language development but no references to specific outcomes in children's oral language learning whereas some strategies did not target oracy skills at all. This finding revealed a further contradiction and misconception between what teachers thought were effective teaching strategies and what was really transferred to children and implemented in practice. In that respect, it contradicted previous research findings by Salonikioti (2009) where Greek teachers reported of a wide variety of specific teaching strategies for language development. However, the finding was anticipated, as the present thesis employed open-ended questions and not Likert-scale items that provided teachers with a number of pre set specific strategies. Another important outcome that links back to the literature was that teachers did not seem to differentiate oral language teaching from written language practice, thus reflecting the holistic view of language skills projected in DSM-5.

Curriculum differentiation was followed up in Phase 2 with questions of in classroom teaching strategies to promote language development and to meet the

needs of *children with language difficulties*. Although it was possible to capture some differentiation in content and in structure, the overall picture was not encouraging in terms of intervening in effective ways. Reported strategies first indicated that Greek teachers did not differentiate teaching methods across school years but across broader age groups and that they did not differentiate approaches across aspects of the language system. Responses again reflected a more unified conception of language teaching across modalities. Both the questionnaire and exploratory interviews, included high numbers of references to written practice through structured grammatical exercises as a means to promote oral language development. Teachers worked within a broader conventional framework of promoting language development in mainstream provision and seemed unaware of how to intensify their efforts and interactions with students so as to optimize outcomes and improve children's oracy skills

Phase 1 and Phase 2 yielded a significantly large number of language teaching strategies. Although elements of language learning interactions were evident, the quantity of those interactions differed notably between TLD and language difficulties, thus suggesting restricted attention to the needs of *children with language difficulties*. For children with TLD, in particular, there were indications that Greek teachers used a variety of approaches to promote language development in terms of vocabulary enhancement and of practising grammatical and syntactical skills. For students with language difficulties, there were a number of approaches such as reading books and providing opportunities to talk which were interactive. However, in total, approaches were less varied, and, in combination with the fact that 60 teachers reported not differentiating the curriculum at all to meet the needs of those students, the finding indicated that students were mainly learning language through conventional teaching approaches for children with TLD and hence, their needs were not sufficiently addressed. Although some of those approaches were more targeted and specific than others, the majority were rather generic methods of language teaching which lacked focus and planned outcomes, suggesting that Greek teachers relied heavily on universal approaches to scaffold language learning for *children with language difficulties* not acknowledging, perhaps, how to adapt strategies to accommodate their differing profiles of need. There was barely an

explicit indication of directly and deliberately addressing oracy skills, of intervening promptly in ways that help students to capitalize on language learning and of scaffolding oral language development in a regular manner in all domains of the language system. On the contrary, it seemed that there was a trend towards practising language skills more with children with TLD and less indication of extending efforts to meet the needs of the less linguistically competent children in mainstream classrooms. The finding contradicted Phase 1 results. Previously, interviewees showed strengths in acknowledging the differing profiles of need of *children with language* difficulties by stating first, that children with SEN do not constitute a homogeneous group of students but rather individual cases that need specific teaching approaches and second that they did not rely on diagnostic labels or statements to identify *children with language difficulties* but on their profiles of needs. Additionally, there was indication of awareness of the 'functional' impact of language difficulties on the children's academic and social life and on their emotional well-being. However, teaching approaches documented in Phase 2, did not support that in practice to a significant degree, thus reflecting confusion and contradictory views.

 The finding could be attributed, however, to the discrepancy between theory and practice in the Greek educational system; teachers are aware of educational and pedagogical issues but do not seem to implement those in practice as they are autonomous on how to approach teaching and learning. However, if combined with the fact that Greek teachers' training in the field is inadequate and that interviewed teachers themselves raised concerns about the lack of knowledge of specific language teaching methods, it seems more possible that Greek teachers did not take into account the specific needs of those children when teaching language. Such findings link back to the literature and reflect that teachers' practices related to language use are difficult to change and that researchers need to look more closely for 'in classroom interactions' to inform methods of fostering language learning (Dockrell et al., 2012b).

 However, findings   may also reflect a shift towards a more unified and inclusive approach to language teaching. Since Greek teachers' language teaching strategies

targeting either TLD or language difficulties were mostly universal approaches, then the indication is that the way TLD and language difficulties are approached, is an 'in classroom interaction' that needs to be considered in how to support the needs of *children with language difficulties* and in how to promote language growth for *all* children in the class. In simpler terms, whether curriculum is differentiated in content or in structure or not differentiated at all, interactions in classrooms can allow for specific teaching elements to be embedded in universal approaches and benefit *all* children at the same time. The underlying base for this assumption is that effective practices in special education are often found and often originate in mainstream education, as argued by Florian and Linklater (2010). This assumption links back to what was referred to in Chapter 3 (Section 3.6) by various researchers. Avramidis and Norwich (2002) argued for restructuring mainstream schools to accommodate the needs of children with SEN, Florian and Linklater (2010) indicated the possibility of using already known and currently administered teaching techniques to enhance learning for children with SEN in mainstream classrooms and Soulis et al., (2016) highlighted the participation of students with SEN in programmes and activities which were, until recently, exclusively aimed at children with TLD. By corollary, existing teaching strategies for language learning for children with TLD can be adapted to accommodate the needs of children experiencing language difficulties. Teachers need then to enrich and upgrade their teaching strategies 'by extending what is ordinarily available as part of the routine of classroom life' and by 'making the best of what they already know when learners experience difficulty'   as ways of responding to students' differing profiles of need 'rather than specifically individualizing for some' (Florian and Linklater, 2010, p. 370). Further, as presented in the literature review in studies by Zhang and Tomblin (2004) , Tomblin and Zhang, 2006) and Conti-Ramsden et al., (2012), language growth in *children with SLI* is, at least in the school years, quite similar to that of children with TLD. By corollary, some teaching approaches may apply to both groups of children. Data presented in this study support this perspective but also add a further dimension. Since Greek teachers were found to use diverse and notably larger numbers of teaching strategies to promote TLD compared to more restricted in scope and fewer in quantity strategies to support oracy skills for the less

linguistically competent children, then the indication is that practice needs to elaborate more on the first by upgrading such strategies, by adding more nuanced elements of language learning and by focusing more on what every language has to 'offer'. Such nuanced elements could include teaching techniques that have been shown to be effective as those reviewed in Chapter 3, Section 3.7.2 but with the added contribution of the interweaving morphological and structural particularities of language that have the potential to enhance language skills across modalities. Such adaptations directly reflect some of the insights of evidence-based interventions, such as that gains in one language component may result in gains in another component as shown by Ebbels et al., (2007) and that teaching methodologies need to be modified to curriculum demands as shown by Parsons, Law and Gascoigne, (2005). Data also indicated that Greek teachers already use approaches with features of structural and morphological nuances and hence, the indication is that a dynamic tool may lie in the hands of teachers to promote language development and that the Greek language does have this dynamic potential.

Another important dimension that emerges with this approach is that inclusiveness is synchronously served in a way that allows teachers to feel more confident in their abilities, as teaching relies on what is already known and not particularly on extra degrees and extra training. In that way, teachers 'can act to enhance *all* children's capacity to learn' (Florian and Linklater, 2010, p. 372) and inclusion can surpass being a mere locational placement within mainstream classrooms or an empty rhetoric. Avramidis and Kalyva, (2007) highlight that professional attitudes may act to facilitate or constrain the implementation of inclusion schemes. That is indeed the case as the success of innovative and challenging programmes must surely depend upon the cooperation and commitment of those most directly involved, namely classroom teachers. Phase 1 indicated that special teachers were no more prepared than general teachers to teach *children with language difficulties*, presumably indicating that supporting the needs of those children may not entail further training on SEN issues in general. Thus, taking into consideration that large numbers of *children with language difficulties* are educated in mainstream schools, that 'problems are there and need to be tackled' as mentioned in the literature

review (Section 3.5), that language difficulties are not always obvious and that teachers lack specialized knowledge of SEN issues, this thesis argues that a way forward would be to reconstruct what is already known, in terms of teachers' preparedness and occurrence of language difficulties in primary school children, so as to support students' needs based on an inclusive ethos.

9.4 Conclusion and contribution to knowledge in the field
Conclusion

Findings in this study reflect current advances in the field of language difficulties included in the DSM-5. Results indicated that teachers view language as a unified system with indivisible and interrelated modalities but with confusing boundaries between TLD and language difficulties, especially in transition years as Y2. There was also evidence that language difficulties are seen as a continuum across modalities by teachers, that language problems are not fully appreciated and that teaching strategies are barely differentiated in essence. Results revealed in-classroom interactions in terms of teaching approaches to TLD and to language difficulties. The present study documented that within the Greek educational context, teachers approach TLD with numerous and diverse activities compared to less in number and to more restricted in scope activities that target language difficulties. However, it further documented a high degree of similarity between teaching approaches to TLD and to language difficulties suggesting that there is a solid base for 'embedded approaches' within the Greek curriculum. Therefore, it is proposed that language teaching is approached holistically but with enriched and nuanced elements of teaching techniques that target language development more explicitly. In practice, teaching of language difficulties should be incorporated in the teaching of TLD and teachers need to be alerted and guided of the diverse language needs that they will have to face in mainstream classrooms. Such nuanced elements may primarily comprise morphological, inflectional and structural particularities of languages that have the potential to trigger children's thinking over language and to help them generate knowledge based on what is already mastered in their language skills.

This is particularly important as the testing of children's profiles of needs showed that, in some cases, Greek teachers may confuse them with children with ASD or with dyslexia -especially in Y2. Such evaluations by teachers, though, could also reflect a more holistic and unified approach to language difficulties that shifts away from strict diagnostic criteria towards a more realistic conceptualization, as highlighted in DSM-5. Thus, teachers might have larger groups of children in mind than the estimated 7% documented in the literature based on a more 'functional approach' to the identification of language problems. In tandem, more children than previously thought, will need general teachers' support. Testing further revealed that Greek teachers were in a position to identify *children with language difficulties* but that they also lacked a clear conceptualization of those difficulties and of their overall impact on children's social and interpersonal profiles, i.e. their self-esteem and relations with peers. However, teachers fully appreciated the negative influence of language problems on children's academic performances.

Based on Greek teachers' reports, *children with language difficulties* are already included in mainstream provision with prevalence rates ranging between 10-2-% or more. However, although general teachers reported facing various challenges in meeting children's needs in effective ways, they did not consider their lack of training in SEN to be a counterproductive factor in implementing inclusive programmes. Specific training, though, targeting explicitly language related issues and a more robust awareness of the dynamics of the Greek language may have the potential to optimize pupils' language learning.

Contribution to knowledge

It was mentioned in the Introduction section that this thesis bears elements of contextual and of methodological originality. The MM Sequential Exploratory approach designed and implemented in the three research phases of this study was not just a triangulation process. It was an interweaving and interrelated process of consecutive research phases that progressively evolved. The literature review showed that no previous Greek studies in the field had investigated issues in SE based on a MM design. In the English literature, as well, MM designs have not been followed to a similar degree by researchers in SE compared to other disciplines.

Hence, the present study contributes to the body of more synchronous methodological approaches to SE studies and shows that research inferences can be significantly more robust, insightful and closer to reality when data are explored from multiple perspectives. Therefore, the consecutive research steps and the points of integration were outlined in detail in Tables 4.1 and 4.2 so as to provide a clear basis for replication by future researchers or a basis for designing similar research projects. Furthermore, at the time of embarking on this thesis, there was no research tool available to measure teachers' knowledge base on language related issues in Greek. The present questionnaire comprises, therefore, an original research measurement in the Greek language and in the wider literature in the field. Taking into consideration that conceptualizing knowledge and designing a suitable questionnaire to measure it can prove to be a very challenging and time consuming task, the present questionnaire serves as a guide to future investigators either in its original form or in a version improved and adapted to different research goals.

In terms of contribution to knowledge in the field, findings provided new evidence. First, teachers believe that larger numbers of *children with language difficulties* than 7% of the general population are found in mainstream provision. The profiles of needs of those children, however, had neither been documented before within such settings nor had they been compared to the linguistic profiles of children with typical language development with the use of a composite language measure. Studies had a more 'medical' nuance as they had mainly been conducted in clinical settings outside schools with the use of tools that targeted specific language components. In the study at hand, though, teachers' views of the needs of *children with language difficulties* and of the nature of their difficulties reflected the 'more educational' criteria included in DSM-5. That is important as it sets a basis for implementing intervention programmes within mainstream classrooms. Furthermore, research findings in this study provide a much needed data basis for comparison for future researchers in terms of the areas of weaknesses and of the difficulties faced by young *children with language difficulties* in mainstream provision. Previous Greek research in the field by Salonikioti (2009) which investigated Greek teachers' understandings of language difficulties had highlighted the need for the profiling of children's difficulties with standardized testing. This as

a crucial feature that needs to be considered when designing implementation programmes or adapting curricula. This study addressed this gap and by doing so it yielded a preliminary source of knowledge of the difficulties faced by Y1, Y2 and Y3 Greek speaking children in mainstream schools. Thus, children's profiles were specified in detail in subcomponents of the language system, risk factors were investigated and associations with other areas of development such as cognitive ability and behavioural, emotional and social well- being were also explored. However, there was yet another significant contribution. No intervention programmes can be designed for in-classroom support for *children with language difficulties* unless the impact of those difficulties is fully appreciated by teachers and policy makers. Therefore, this study included the Impact Supplement of the SDQ questionnaire to portray teachers' knowledge in the area. Results clearly highlighted the great impact of language difficulties on children's attainment and, hence, reflected the need for action. The Impact Supplement was used for the first time in the Greek literature and documented teachers' acknowledgement of a negative academic influence but lack of understanding of an association between language difficulties and problematic peer relationships. To my knowledge, this area, in particular, has not attracted any research interest so far amongst Greek researchers in the field, even though studies in other countries have highlighted that language difficulties may result in BESD that influence children's wider school well-being.

Research examining teachers' preparedness to meet the needs of *children with language difficulties* has mainly highlighted their knowledge gaps and their lack of training. There was, however, a need to conceptualize this knowledge gap and to specify teachers' understandings of language related issues. It was also important to examine whether expectations of TLD were explicit to teachers. The main contribution resides with the specification and conceptualization of teachers' understandings and with the fact that knowledge of language difficulties was not tested as a separate entity but in conjunction with expectations of TLD. In turn, this approach led to conclusions about in-classroom interactions in terms of how language teaching is approached in Greek mainstream classes (see previous Section 9.3.4).

However, teachers' preparedness to meet the needs of *children with language difficulties* presupposes that teachers have the ability to identify children at risk timely and accurately. This ability could not have been 'captured' by means of a questionnaire survey or by interviews. As such the present study made a novel contribution by validating teachers' perceptions of children's language difficulties with the use of standardized tests. As mentioned previously, Salonikioti (2009) had raised the issue and therefore, the present findings contribute to a deeper understanding of Greek teachers' preparedness to address the needs of *children with language difficulties*. The significance of this approach in relation to previous research lies with the fact teachers' views are examined in relationship to the profiles of need of their pupils. Without this research step, it would be difficult to draw conclusions on whether teachers' views of the children's profiles of need comprised arbitrary estimations or accurate depictions of children's needs.

Previous studies have not documented in-classroom interactions of language teaching and learning that may improve our understanding of how best to support the needs of *children with language difficulties* while at the same time enhancing all children's language skills. This study provides such elements of in-classroom support for *children with language difficulties* and of support within mainstream provision. It then synthesizes findings from the QUAN and QUAL strands to support new perspectives that have been previously highlighted in the literature by prominent researchers in the field, mainly in UK. Thus, results indicated that neither SE teachers nor general ones are adequately trained in language difficulties. However, even if special teachers alone were adequately trained, it is highly unlikely that they would suffice for the increasing numbers of *children with language difficulties* in mainstream education, given that there is usually one SE teacher in every mainstream school in Greece. Furthermore, results also indicated that, within the Greek educational system, *children with language difficulties* are less likely to attend special classes compared to other categories of children with SEN. On the other hand, it could be assumed that not all *children with language difficulties* may need to attend special classes and also that their problems could perhaps be tackled by general teachers with a basic understanding of issues related to language difficulties. Initial findings from the exploratory interviews and

generalized findings from the survey questionnaire in this study reflected strengths in teachers' understandings of TLD and of language difficulties but lack of specific knowledge and of a deeper acknowledgement. The indication is then that specific training in language teaching approaches and in language difficulties could make a difference based on two research outcomes. First, teachers themselves argued that if they were guided appropriately, they would be sufficient but a question remains as to the nature, quantity and quality of such training. Studies in the English educational context have also yielded similar findings (Sadler, 2005). Second, teaching approaches documented by Greek teachers indicated that they are sufficiently engaged with language learning and teaching. Nevertheless, it seems that they have not been shown how their efforts could be improved within a more focused and systematic framework that targets language development more elaborately. The present study provided preliminary empirical evidence, based on teachers' responses to questionnaire items, that teachers use elements of the Greek language dynamics -such as morphological awareness, inflectional morphology and etymology- that have the potential to promote language growth and understanding. Not all teaching strategies, though, were approached in explicit and creative ways by teachers. However, changing teachers' overall perceptions of language teaching cannot be considered a viable option, at least at a micro level, as research suggests that this may be particularly difficult(Dockrell et al., 2012b). The general indication is then that what might be required is not an overall change of training but a more specific one that could trigger an alert to what lies there in the hands of teachers but is in a rather latent state. Hence, the present findings provide empirical evidence of in-classroom interactions that compliment and advance recommendations made by prominent researchers in the field. Norbury (2014),for instance, suggests that developing teacher training programmes to highlight TLD and how to identify those with likely language learning impairments and adapting the National Curriculum to increase focus on developing oral language skills, should help to improve language and associated outcomes for many children. Law et al., (2012a, p. 21) also talk of 'embedded approaches', building on current practice and provision that would include interventions for *all* children in the classroom.

9.5 Limitations of the study

The MM design of the study aimed to circumvent potential methodological limitations that would jeopardize the credibility of research results. The diverse data sources, the combination of QUAN and QUAL measurements, of sequential data collection procedures, of the gradual integration of results as the study unfolded, the linking of results back to the literature to locate contradictions, ambiguities and misconceptions that informed the design and context of subsequent phases were all steps designed and implemented to assure the study's credibility and accuracy. However, as with any research project, there are limitations as those are presented in the following sections.

9.5.1 Methodological limitations

9.5.1.1 Limitations of the design and of the measures used
The questionnaire

The questionnaire was piloted twice and adaptations to the design and content were implemented. The initial decision of a Likert-scale in the pilot questionnaire proved problematic and was abandoned. Yet, the final choice of the three answering options (Yes, No, Not sure/don't know) could also be perceived as problematic as children's developmental stages in language are not clear enough to be answered with a positive or a negative assumption. Furthermore, statistical analyses of those types of responses also proved challenging as they needed to examine two parameters at the same time; level of awareness and agreement with the literature. Thus, it became apparent that those challenges would have been circumvented with a different approach to the questionnaire design. In hindsight the main questionnaire should have been piloted with a larger sample and subsequent analyses, other than the preliminary ones in the first pilot study, should have been conducted to identify limitations in relation to statistical analysis. In relation to content, some of the questionnaire items could have been more specific and more restricted in scope, such as items on language difficulties. Perhaps then, response percentages would have been different. Items exploring teaching strategies were intentionally targeted with open-ended questions and not closed ones as exemplified in Section 3.7.3. Furthermore, teachers' understandings of language difficulties and strategies they

used to support *children with language difficulties* were tested separately with a layout different to the layout for TLD. More space was available for TLD than for language difficulties and perhaps, this may have biased some teachers' responses. In hindsight, teaching strategies for TLD and language difficulties could have been tested in the same section.

The DVIQ

 The DVIQ provided an initial evaluation of children's language skills and an indication of the severity of language difficulties for a number of students in the sample. It was accompanied by a test of NVIQ and a teacher's checklist to produce a combined assessment portfolio. However, as with every language measure, there were limitations.

First, although the DVIQ has been standardized in a population of Greek speaking children and has been widely used in Greek studies for more than a decade, no reference norms are yet available for the school-age version of the test. This was taken into consideration in the analysis of the test results and z-scores were produced. However, notice was taken regarding the background of the sample children's population to be comparable to the standardization population. Both this study's population of children and the DVIQ sample population were drawn from the two largest cities in Greece, Athens, the capital, and Thessaloniki, the second largest city in the country. Notwithstanding this, had reference norms been available, comparative results would have yielded a more representative picture of the children's profiles of needs.

THE SDQ

The SDQ has not been widely used in educational research in Greece and as a result Greek teachers are, perhaps, not particularly familiar with it and with the scope of its use. Thus, teachers in the sample showed reluctance to fill in the first part of the SDQ questionnaire in the beginning as they thought that it revealed personal information. However, after they were assured confidentiality, they all completed the form in the end. It could be the case that their responses were biased towards lenience. This could, partly, explain the discrepancy between the first part of the

SDQ and the Impact Supplement. Thus, the majority of children in the LI group were ranked in the normal range by their teachers but when it came to the completion of the Impact Supplement, where direct personal information was not required, teachers were rather less lenient in their responses and verified that language difficulties had an adverse impact on the school well being for the vast majority of the children in the sample.

9.5.1.2 Sample limitations
As stated in Section 5.3.2, questionnaire data were gathered from 15 primary schools although the initial planning stage involved all 25 schools in the chosen region. This could be considered a limitation as more questionnaires could have yielded a more coherent and clear picture of Greek teachers' understandings in the field. However, since the minimum number of respondents set out beforehand by the power analysis was exceeded, it is the researcher's belief that this sample limitation did not jeopardise the quality and the credibility of the survey data. This was further indicated by the statistical analysis of the questionnaire data as it revealed a common framework of patchy knowledge, of inconsistencies and confusion as well as of misunderstandings in teachers' responses in all 119 questionnaires that were finally collected. Similarly, the theoretical model of the study entailed that teachers' multiple views would be portrayed though interview data and that survey data would further test the generalizability of qualitative data. Combined results of both research instruments indicated then a coherent picture of Greek teachers' understandings of language related issues.

In total, sixty children participated in the study (thirty *children with language difficulties* and an equal comparison group of children with typical language development). This was not an arbitrary figure but the result of a power analysis and therefore it was considered sufficient. However, this meant that there were 10 children from each group in every school year which was a rather limited subsample size. A larger number of students from each year group would have yielded a more comprehensive picture of the linguistic profiles of children at those ages. However, this was the first educational study in the Greek context to assess children's language skills across year groups and to compare with children with

TLD with a battery of diverse tests and hence the data provided are mainly preliminary. Future studies employing larger samples will certainly portray a more accurate and representative picture.

9.6 Implications for practice

The present study provided preliminary evidence of a number of issues that had not been researched adequately before within the Greek educational system. Based on the study findings, the following paragraphs present a number of educational implications that policy makers and stakeholders need to consider when planning educational practices.

An overall indication, based on this study's findings, is that teachers can be a rich, informative data source of research in language related issues. Exploratory interviews and the survey questionnaire yielded a large amount of data of current teachers' understandings of TLD and of language difficulties and of up-to-date classroom practices. Reilly et al., (2014a) highlight that research should inform practice; however, findings from this study indicate that it is also fruitful for practice to inform research. Teachers' views can provide insights and diverse perspectives of where the focus of future research should be. For instance, for a referral for specialist assessment/intervention, the CATALISE consortium recommends reliance on concerns expressed by those who know the child rather than universal screening. Therefore, research will not only be informing practice but practice could also enrich research. As Dockrell and Lindsay, (2014) highlight, we need to consider and take into account 'the view from the chalk face' in conceptualizing and addressing the needs of *children with language difficulties.* In Greece, in particular, teachers are not involved in any of the planning stages of curricula (Zoniou-Sideri et al., 2009). That means that their views are not being heard. In tandem, children's needs are not also heard as teachers are the ones more close to them on a daily basis. Consequently, the challenges faced by both in everyday practice also remain unknown to stakeholders and policy makers. This, however, creates a vicious circle, as new legislations do not provide solutions to real problems in classroom practice and hence, problems become even more complicated and teachers feel even more unsupported. By contrast, any new

legislative framework based on the teachers' and on children's needs, would be more beneficial to those who provide knowledge and to those who receive it.

Workforce development is key both for the timely identification of *children with language difficulties* and for implementation of the best possible intervention programmes. Developing a skilled workforce is, therefore, of high importance. However, although this parameter has been highlighted for many years in various studies (Bishop et al., 2012; Dockrell et al., 2012b; Dockrell et al., 2006; Sadler, 2005), recent research in the UK has indicated that there are still significant gaps in teachers' professional development in this area (The Communication Trust, 2017).Findings in the present thesis attest to a similar picture of limited Greek teachers' training in language related issues. Based on the findings mentioned above in Section 9.4 which contribute to our understanding of in-classroom support for *children with language difficulties* and for teachers' preparedness to meet their needs, the general indication is that what might be required is not an overall change of training but a more specific one that could trigger an alert to what lies there in the hands of teachers but is in a rather latent state. At a macro level, such specific training could be provided in two ways; first, initial teachers' training needs to address the issue in a more robust and focused way as evidence in this study showed that teachers attend university courses on language related issues but those were not found to leave a significant print if any. Second, in-service teachers could benefit from high quality short-term seminars explicitly targeting language related issues and language difficulties as Greek researchers in the field have highlighted that the quality and expertise of short-term courses for in-service teachers has the potential to effect a change in their attitudes. At a micro level, however, an alternative could lie in the hands of educational counselors. Within the Greek educational system, educational counselors have the authority to organize seminars and meetings with teachers; a practice also indicated by the counselor interviewed in the present thesis. Initially, therefore special teachers could be informed by educational counselors and in turn, special teachers could raise general teachers' awareness on the matter within mainstream schools as there are one or two special teachers in Greek primary schools. Such an approach could create a network of

engaged professionals who are all currently in service and hence in constant contact with students.

Another implication that was indicated by the findings in this study is that Greek teachers need to view language development outside the strict boundaries of a rigid academic curriculum and approach language learning in more creative and fruitful ways that enhance children's reasoning, thinking and communicational skills. In terms of language instruction, teaching approaches do not need to change dramatically. The perspective which was highlighted previously about stepping on what is already known and used by teachers and optimizing teaching strategies with effective techniques and with the dynamics of language provides a much needed and timely potential to enhance language skills. Taking into consideration, though, that the Greek educational system is a highly structured, centralized system in which decision-making follows a top-down model, curriculum adaptation is vital so as examples of such approaches are timely included in teachers' guides which are distributed to primary schools every year.

 Any adaptation to curricula, nevertheless, should take into account the varying profiles of need of *children with language difficulties* but also the language needs of children with typical language development. Based on the results of the composite language measure used in this study, children's linguistic profiles differ significantly between groups but also within the same cohort. Documented difficulties were found to be diverse and complex in nature; children with typical language development were also found to present diverse areas of strengths and weaknesses in language development. Consequently, teaching approaches need to reflect those diverse profiles of need. In practice, this will empower teachers to do more for *children with language difficulties* in their classrooms through creative and constructive ways with the added benefit of supporting *all* children's language development in class, thus promoting an inclusive ethos in Greek schools.

Another implication that was indicated by the findings in this study is that Greek teachers need to be alerted to the fact that increasing numbers of *children with language difficulties* are expected to enter primary education and, hence, they are responsible for supporting the needs. Based on evidence from this study, most

teachers believed that a percentage of 10- 20% of the pupils in mainstream schools present *children with language difficulties* but they also stressed limited support from special teachers. It is important, therefore, to notify teachers of their role in supporting those children's needs in general classes. Policy makers need also recognize the presence of *children with language difficulties* in mainstream provision as a different group of children with SEN from children with learning difficulties and further cater for counterbalancing the impact of language difficulties on young children's access to curriculum. Data presented here, rather indicated that this group of children with SEN is neither clearly defined nor acknowledged by stakeholders.

Additionally, the possible impact of language difficulties on the students' behavioural, emotional and social profiles was not fully appreciated by teachers based on the study results even though it can affect pupils' school well-being. Lindsay and Dockrell (2012b, p. 36) recommend that provision for *children with language difficulties* should take into account their likelihood of needing support to develop peer relations and prosocial skills as well as language and their increased level of risk for emotional problems. Similarly, Charman et al., (2015) indicate that those working with *children with language difficulties* need to be aware of their generalized vulnerability for emotional and behavioural problems. Based on the current results, Greek teachers obviously lack this consideration and therefore, there is a need for raising their awareness.

9.7 Recommendations for future research

Future research could focus more on investigating how to tackle language problems in practice within the current educational context in Greece. Observations of in classroom practice could provide a necessary and informative insight into how Greek teachers scaffold language teaching and learning and also into the extent to which they are alerted to the contribution of the Greek language in enhancing language development.

Future research should also address the issue of prevalence of language difficulties in mainstream provision. The indication from this study is that more children experience languages than reported by the Ministry of Education and Lifelong

Learning. In tandem, this raises the issue of how those children's needs are supported in practice and this also needs to be investigated.

Research could expand to the way the Greek language can be used as a tool for thinking and reasoning. Even though the present thesis has not highlighted this option, it is a notably missing element from the Greek educational system; a system that relies more on the mastering of the syllabus and less on children's development of critical thinking and of using language as a learning mechanism. But, as Mercer (2002, p. 141) highlights 'the prime aim of education should be to help children learn how to use language effectively as a tool for thinking'. Greek teachers should be alerted to how *educational linguistics* fit into the Greek language teaching and learning processes.

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APPENDICES

Appendix 1: Letter of consent

Sample letter to parents

Dear parent,

I am writing to let you know that your school has agreed to participate in a research project on young children's language development. I am a primary school teacher and as part of this project, I will be collecting information on children's language skills. It is hoped that this study will help us to learn more about children's language competence and difficulties.

 I would like to include children from Year 1, Year 2 and Year 3 in my study. This would entail an individual language assessment with a language test with myself as researcher. None of the children's named will be disclosed. All data will remain strictly confidential and will only be used for the present research purposes. If you have any more queries about this project, please feel free to contact me through the school.

Best wishes,

Yours sincerely

Mrs Konstantina Georgali

Primary school teacher

Appendix 2: Pilot study

Rationale

Language development

The importance of subject knowledge

The pilot study was an initial exploration of Greek teachers' understandings on core aspects of the language system. In particular, those aspects referred first to subject knowledge of Typical Language Development (TLD) in language areas such as vocabulary, morphology, syntax and pragmatics and second to subject knowledge of Language Difficulties (LD).

Aims of the pilot study

The main research instrument of the present thesis was a self-designed questionnaire which needed to be piloted first. Hence, the pilot study aimed to:

i.   Test whether or not the questionnaire items were understandable and unambiguous.

ii. Test whether the rating scale was friendly and usable and whether the items were too many and thus potentially tedious.

iii. Investigate potential limitations and methodological difficulties.

iv. Devise a provisional analytical framework and some preliminary graphical representations of the data.

Methods

Participants

The pilot questionnaire was distributed to an opportunistic sample of 15 mainstream and 3 special school teachers working in north-east Attica. Every effort was made to include participants that reflected the current workforce of teachers in Greece. For the purposes of the first phase of this study, the same teachers participated in interviews and therefore demographics are presented in Chapter 6 and not in this Appendix.

Design

The pilot questionnaire comprised 41 items which tested subject knowledge of Typical Language Development and of Language Difficulties. The choice of the

specific items was based partly on the literature review and on two other main sources. The first one was the national curriculum of Greece which outlines the educational goals for all the subcomponents of the language system by age group and school year. Those goals are based on the key language milestones and   key language features for children in primary education. Most of the 41 statements were exact quotes from the lists of the Greek national curriculum (author's translation) (Government of Greece 2000). The second source was a questionnaire used in the I CAN Early Talk package (Dockrell   et al., 2007; Goverment of Greece, 2000) which similarly tested issues of language development and language difficulties.

Materials

The pilot questionnaire comprised three sections with 28 statement items in total examining subject knowledge of Typical Language Development and one section with 13 statement items examining knowledge of Language Difficulties. Respondents had to choose their degree of agreement with the statements in a 1-5 Likert-scale (1= strongly agree- 5= strongly disagree). Sections included:

i)   Section 1 (items 1-11): subject knowledge of TLD in key Stage 1 (Y1-Y2).

ii)   Section 2 (items 12-23) : subject knowledge of TLD in key Stage 2 (Y3-Y4)

iii)   Section 3 (items 24-28) : subject knowledge of TLD in key Stage 3 (Y5-Y6)

iv)   Section 4 (items 29- 41): subject knowledge of language difficulties and of their impact on children.

The pilot questionnaire is presented at the end of this Appendix.

Procedure

Initial contact with participants was made by email or by telephone and they were asked if they would take part in the pilot study. All teachers agreed to participate and they were then given the questionnaire either by email or in person. All the questionnaires were returned shortly afterwards.

Results

According to participants, the 41 items included in the four sections of the questionnaire were rather too many and too diverse. Participants also highlighted that for a number of items, the wording was confusing and ambiguous whereas others were repetitive or not self-explanatory, especially those with no examples or probes.

A preliminary statistical analysis of the items revealed that the Likert rating scale was problematic as respondents tended to use the mid point in most of the cases and therefore there was no distinguished variation in their choices. Thus, the variance in responses was approximately the same across items and it was not possible to discriminate the existence or the absence of subject knowledge of TLD and of language difficulties. Table I and Table II below illustrate the preliminary data analysis.

Table I. Teachers' views on the language development of Y1-Y6 children

Items	Mean	Std. deviation	CV%
have a rich vocabulary of almost 9,000 root words	3.67	1.23	34
have developed listening and responding skills	3.29	1.10	33
are able to narrate real or imaginary events	2.71	0.84	31
are able to use verb tenses correctly when describing events in the past	3.24	1.03	32
are able to describe persons, objects and events	2.94	1.09	37
are able to express in a comprehensive oral language feelings, impressions, thoughts	2.76	1.30	47
are able to narrate stories or retell well known favourite stories	2.17	0.95	44
are articulate and able to pronounce words clearly and with correct intonation	3.12	0.95	30
can formulate. affirmative, negative, interrogative and exclamatory sentences that make sense	2.47	1.37	55
know how to use passive voice	3.41	1.28	38
learn language through adult imitation	2.05	0.89	43
are able to think of and use appropriate vocabulary when involved in role play e.g. dramatization	2.50	1.03	41
are able to formulate questions , to provide explanations and appropriate arguments	2.58	1.42	55
are able to distinguish different kinds of oral speech e.g. instruction, announcement, interview, advertisement	2.94	1.20	40
are able to comment on an announcement, a person's talking when these involve sarcasm, humour, insult, funny mood, emotions	2.47	1.07	43
are able to narrate solely by memory	2.11	0.85	42
are able to use main and subordinate clauses	2.25	0.85	37
effectively engage in conversations and are able to identify key points in a person's talking	2.94	1.25	43
effectively engage in a telephone conversation using appropriate greetings, introduction	2.29	1.05	46
are able to identify their oral errors and correct them successfully	3.41	1.12	33
avoid common expressive mistakes	3.00	1.06	35
understand implied speech and hint	2.82	1.13	40
gradually develop a rich vocabulary	2.05	1.03	50
can follow complex oral instructions in activities such as toy modelling, sketching	2.11	1.17	55
systematically and effectively engage in complicated narrations	2.58	1.33	53
accurately summarize a story	2.58	1.33	58
are able to critically listen to a story or narration and engage in a constructive dialogue afterwards	2.88	1.11	39
use specific terminology in subjects such as Maths, Science, Geography	2.88	1.32	46

Table II. Teachers' views on language difficulties

Items	Mean	Std. deviation	CV%
are a frequent occurrence	1.70	0.77	45
may have literacy problems	2.00	1.06	53
may have problems with written language	2.11	1.27	60
Have behavioural and emotional problems	2.35	0.86	37
have limited peer relations	2.70	1.21	45
always produce intelligible speech	2.23	0.56	25
may have been exposed to poor linguistic environments	1.64	0.78	48
are self-confident	3.76	0.83	22
most of the times grow out of language problems with maturation and the effects of schooling	3.17	0.72	23
can be detected from pre-school age	2.17	1.29	59
have problems with numeracy	3.00	1.11	39
their reading comprehension and spelling skills are intact	2.41	1.06	44
need to have their mistakes corrected by the teacher	2.82	1.24	44

Implications for main research

The results of the pilot study had implications for the design and the content of the questionnaire. First, the 1-5 Likert scale was replaced with a simpler scale of three choices 'Yes', 'No' and ' Not sure/Don't know' so as to yield a marked differentiation across items and across groups. Hence, the participants' responses would clearly indicate the degree of their subject knowledge and of their level of understanding of issues surrounding language development.

Second, items were reworded with more clarity so as to be more focused and coherent and to avoid misunderstandings.

Third, the items of the questionnaire were reduced. However, instead of excluding a certain number of items, a different approach was chosen. The revised questionnaire targeted only children in Y1, Y2 and Y3 of primary education (aged 6 - 9 years) with a set of 13 items on language development and 10 items on language difficulties. Eventhough the main reason for this alteration was to reduce the 41 initial items, there were yet two important factors. First, language difficulties are more prevalent in younger children than in the older ones and therefore, teachers come across more *children with language difficulties* in the early years of primary

school than in the later years. Consequently, it was expected that they would have a clearer understanding for this age group and be in a better position to answer the questions. Second, restricting the sample to three school years would yield a more statistically significant and representative outcome for the third phase of the study involving formal assessment processes with children. In the opposite case, if all six school years were included, then a substantially larger sample would be required for a statistically reliable analysis. This option was abandoned for practical reasons.

Appendix 3. Interview protocol

Introduction
Thanks for cooperation
Ensure confidentiality
Need for a break
Demographics
Age
Gender
Years of working experience
Professional qualifications

Questions

Subject knowledge-training on LD- identification-classroom strategies			
Q No		**Asked**	**Notes**
1	Have you had any training in language development? Can you tell me where that's been? Do you remember any of the courses or what did they cover?		
2	Have you ever attended any seminars on language development? Any other course besides your initial teacher's training?		
3	Identification- Do you think you could identify *children with language difficulties*? Which areas of language development do you think could be problematic or are problematic in children with LD?		
4	Do you try to support children with language problems within the daily school schedule? Can you exemplify?		
5	Could you please refer to classroom practices that you find helpful in supporting the children's language needs? (could be both for all children in the class or for *children with language difficulties*) **Prompts** *Extend children's language * involve children in drama activities		

	* read or look at books or other texts * use of IT to present a new theme * directly target oral language skills *actively seeking opportunities to repeat and reinforce new vocabulary * making time to say rhymes or sing with the children * success at speaking and listening celebrated		

6	Do you know of any specific terminology for children with LD?		
7	*To what extend do you /do you not differentiate the curriculum to meet those students language needs? *Can you name a few daily classroom strategies /methods that you use to enhance language development? (e.g. when teaching vocabulary, syntax, oral skills etc) *Do you use any specific strategies to monitor language development? **Prompts**: compare with the other students, your own observations, any specified tests or checklists?		
8	Do you ever collaborate with other professionals inside/outside school. **Prompts**: special teachers? Speech therapists?		
9	If you ever had/suppose you had a student with language difficulties what would your relationship with the parents be? Do you ever talk to the children **themselves** about their problems and the ways they think they are affected?		

Inclusion

Perceptions /attitudes towards inclusion			
Q. No.	Question	Asked	Notes
10	What is your opinion of children with LD being included into mainstream? **NO PROMPTS**		

11	How confident would you feel to have a child with LD in your classroom?		
12	What daily problems and challenges do you think that you could possibly face?		
13	**In general,** what could barriers to inclusion within the Greek educational system? **Prompts**: adequate resources, infrastructural equipment, inflexibility of curricula, lack of teachers' training, time constraints, class size, lack of assistants, effort needed to prepare individual plans, negative impact on the academic performance of students with no disabilities		
14	What is your view of support rooms for students with Special Educational Needs in mainstream schools?		
15	Do you think children with SEN should be exclusively educated in special schools? Why?		
16	Could you name a few types of disabilities/SEN that you think could be accommodated into mainstream? Others that you think could not be accommodated? **Prompts:** Speech and Language delay, Specific Learning difficulty e.g. Dyslexia, Dyspraxia etc, Mild cognitive disability, ADHD, EBD, autism/autistic spectrum, visual/hearing impairment		
17	**For teachers with no SE qualifications**: Would you be interested in the future to get		

	more familiarized with SE? Why? Why not?		
Training/experience			
18	In your initial teachers' training, did you have any seminars, modules, courses on issues of SE? Any in-service training on SE? If no, ask: Have you received any training at all in SE?		
19	Have you ever had any children with SEN in your career? If yes, did this have any impact on your views on disability/inclusion?		
20	Do you know any children/persons with SEN outside school? If yes, Q21		
21	Does this have any bearing on your practice as a teacher?		
22	Have you ever worked in an inclusive school? **Prompt**: What was it like? Can you give an example?		
23	School ethos: how much does it /does it not affect your stance on inclusion? **Prompts**: Role of the school administration in promoting or not an inclusive school ethos		
24	Where would you rely more for help/support if you had a child with SEN in your classroom? **Prompts**: other professionals, parents, hands on experience, independent reading, web, other		

Appendix 4: Survey questionnaire

Age group	<30	30-40	40-50	>50
Gender				
Years of working experience				
School Year you currently teach				
Professional qualifications				

Y1, Y2 and Y3 children with Typical Language Development

1	Have you had any training in language development? Can you tell me where that's been? Do you remember any of the courses or what did they cover?			
2	Through primary education children develop their language and communication skills. Below are 13 items related to the **TYPICAL ORAL** language development of children in Years 1, 2 and 3 of primary education (categories overlap. Please tick one of the boxes and give **brief** answers to the subsequent questions.			

Children in Y1 and Y2….	Yes	No	Not sure/don't know
1. have a rich vocabulary of root words	1.		
If yes, approximately how many root words do you expect children to know? **< 9000** [ ] **> 9000** [ ]			
2. should be taught vocabulary explicitly If yes, which methods do you find more effective?	2.		
3. learn more new vocabulary when this is topic-specific If Yes, what kind of material do you introduce the new topic with? E.g. books, ICT , discussion etc	3.		
4. are able to use correctly Past and Past continuous tenses when describing events in the past For practicing that, which methods/ strategies do you believe children respond better to?	4.		
5. can formulate, affirmative, negative, interrogative and exclamatory sentences that make sense	5.		

	Children in Y3….. 6. Do not know how to use passive voice. If Yes, how do you work on that in class?	6.		
	7. are not able to describe persons, objects and events If Yes, what kind of exercises do you believe are helpful?	7.		
	8. are able to narrate stories or retell well known favourite stories e.g. fairytales If Yes, do you use dramatization or any other visual material when practicing?	8.		
	9. are able to use main and subordinate clauses	9.		
	10. are articulate and able to pronounce words clearly and with correct intonation. Discern even subtle differences in speech sounds	10.		
	11. effectively engage in a telephone conversation using appropriate greetings, introduction etc	11.		
	12. especially for Y3, do you believe children find it difficult to make inferences from oral language? Could you give examples of where such difficulty mostly occurs	12.		
	13. learn language through adult imitation	13.		

Children with Oral Language Difficulties

3	(i)Who do you think children with OLD are? Could you please name a few of the language problems/ difficulties you believe they might have? (ii) How frequently do you believe children with OLD may occur in primary education? Please circle. <u><10%</u> <u>10-20%</u> <u>>20%</u> (iii) Do you currently have students with OLD in your class? **Yes** **No** If Yes, how many?

Children with oral language difficulties	Yes	No	Not sure/Don't know	Any other comments
14. have literacy problems				
15. have problems with written language as well e.g. spelling, text generation				
16. do not have problems with numeracy				
17. always produce intelligible speech				
18. do not have behavioural and emotional problems				
19. have limited peer relations				
20. are self-confident				
21. may grow out of language problems with maturation and the effects of schooling				
22. have problems because they have been exposed to poor linguistic environments				
23. need to have their mistakes corrected by the teacher				

4. Are there any specific ways in which you support children with oral language difficulties in your classroom (e.g. modify the curriculum goals). If you don't use any specific ways, please tick the box below.

☐ I do not use any different teaching strategies   Thank you

Appendix 5: Standardisation of the DVIQ-preschool

For the standardisation of the DVIQ-preschool test, the method of random sampling was followed so as to draw a representative sample of the population. The standardization procedure was the same for both age groups but reference norms were only produced for the preschool children. Two hundred and ninety one children (149 boys and 142 girls) from twenty six public kindergartens and 3 public nurseries in the region of Thessaloniki were included in the sample. Their participation was voluntary. Undergraduate and post graduate students of the departments of Greek and English literature of the Aristotle University of Thessaloniki did the standardisation of the test and every effort was made to examine equal numbers of boys and girls in every visit. A pilot study had previously been conducted both to examine issues regarding the implementation of the test and to evaluate the psychometric properties of the test. To assess the quality of the test items and to eliminate ambiguous or misleading elements, an item analysis was conducted. As a result, very easy questions (difficulty index $>0, 90$) and very difficult ones (difficulty index $<0,10$) were deducted from the study (in sum those were 11 out of the 124 items of the test). For the statistical analysis, the sample was divided into three age groups and a One-way ANOVA was computed in order to compare the scores of the three age groups across every section of the test. To check the reliability of the test, the split-half method and Cronbach's alfa were chosen whereas content, criterion and construct validity were also examined and verified.

Appendix 6: Associations between understandings of LD and curriculum differentiation

		Curriculum differentiation			
		Chi-Square	df	Asymp. Sig.	
Curriculum access	Have literacy and text comprehension problems	7.215	2	0.027	***
	Have problems with written language	7.720	2	0.052	
	Have problems with numeracy	5.806	2	0.055	
	Always produce intelligible speech	15.056	2	0.001	***
Emotional development	Do not have BESD	0.853	2	0.653	
	Have limited peer relations	6.488	2	0.040	***
	Are self-confident	3.227	2	0.199	
Developmental norms	Grow out of their difficulties	0.257	2	0.879	
	Have been exposed to poor linguistic environments	0.359	2	0.836	

Appendix 6 (continued) Associations between understandings of LD and curriculum differentiation (without the 'Not sure/Don't know' responses)

		Curriculum differentiation			
		Chi-Square	df	Asymp. Sig.	
Curriculum access	Have literacy and text comprehension problems	3.731	1	0.053	
	Have problems with written language	3.074	1	0.800	
	Have problems with numeracy	5.787	1	0.016	***
	Always produce intelligible speech	1.567	1	0.211	
Emotional development	Do not have BESD	0.761	1	0.383	
	Have limited peer relations	3.788	1	0.052	
	Are self-confident	0.508	1	0.76	
Developmental norms	Grow out of their difficulties	0.195	1	0.659	
	Have been exposed to poor linguistic environments	0.074	1	0.785	

Appendix 7: Associations between TLD and teacher-related variables

			Chi-Square	df	Asymp. Sig.	
VOCABULARY		Age group	11,943	2	0,063	
		Gender	0,457	2	0,796	
	Possess thousands root words	Experience	10,445	4	0,034	***
		First degree	1,857	2	0,395	
		Extra degrees	7,091	8	0,527	
		Specific training	3.125	4	0.537	
		Age group	13,153	2	0,041	
		Gender	2,036	2	0,361	
	Explicit vocabulary instruction	Experience	6,592	4	0,159	
		First degree	1,156	2	0,561	
		Extra degrees	7,227	8	0,512	
		Specific training	11.179	4	0.018	
		Age group	9,802	2	0,133	
		Gender	1,735	2	0,420	
	Topic-specific approaches to vocabulary	Experience	6,844	4	0,144	
		First degree	0,486	2	0,784	
		Extra degrees	9,440	8	0,307	
		Specific training	7.414	4	0.116	
GRAMMAR		Age group	7,487	2	0,278	
		Gender	15,930	2	<0.001	***
	Correct use of Past tenses	Experience	6,377	4	0,173	
		First degree	0,972	2	0,615	
		Extra degrees	10,511	8	0,231	
		Specific training	2.103	4	0.717	
		Age group	3,670	2	0,721	
		Gender	0,633	2	0,729	
	Comprehensive sentence formation	Experience	3,224	4	0,521	
		First degree	1,956	2	0,376	
		Extra degrees	18,481	8	0,018	***
		Specific training	1.695	4	0.792	
		Age group	9,760	2	0,135	
		Gender	3,754	2	0,153	
	Correct use of Passive voice	Experience	6,067	4	0,194	

		First degree	3,450	2	0,178	
		Extra degrees	13,109	8	0,108	
		Specific training	34.752	4	0.334	
SYNTAX		Age group	5,361	2	0,498	
		Gender	2,308	2	0,315	
	Do not produce adequate descriptions	Experience	6,805	4	0,147	
		First degree	1,289	2	0,525	
		Extra degrees	8,858	8	0,354	
		Specific training	5.407	4	0.248	
		Age group	25,348	2	<0.001	***
		Gender	1,419	2	0,492	
	Produce structured narrations	Experience	13,007	4	0,011	***
		First degree	1,138	2	0,566	
		Extra degrees	18,918	8	0,015	***
		Specific training	1.995	4	0.737	
		Age group	4,121	2	0,660	
		Gender	2,702	2	0,259	
	Use main and subordinate clauses	Experience	3,826	4	0,430	
		First degree	4,686	2	0,096	
		Extra degrees	15,341	8	0,053	
		Specific training	8.815	4	0.085	
SPEECH INTELLIGIBILITY		Age group	9,169		0,164	
		Gender	3,106	2	0,212	
	Pronounce all sounds clearly	Experience	4,980	4	0,289	
		First degree	0,019	2	0,991	
		Extra degrees	10,655	8	0,222	
		Specific training	7.941	4	0.094	
PRAGMATICS		Age group	10,259	2	0,114	
		Gender	0,135	2	0,935	
	Effectively engage in telephone conversations	Experience	6,255	4	0,181	
		First degree	0,330	2	0,848	
		Extra degrees	10,705	8	0,219	
		Specific training	1.683	4	0.794	

			Chi-Square	df	Asymp. Sig.	
		Age group	6,738	2	0,346	
		Gender	6,758	2	0,034	***
	Infer meanings from oral language	Experience	5,598	4	0,231	
		First degree	6,585	2	0,037	***
		Extra degrees	13,643	8	0,092	
		Specific training	34.824	4	0.306	
LANGUAGE INPUT		Age group	2,196	2	0,901	
		Gender	5,570	2	0,062	
	Imitate adult language	Experience	1,136	4	0,899	
		First degree	2,430	2	0,297	
		Extra degrees	10,167	8	0,253	
		Specific training	5.087	4	0.278	

Associations between LD and age, gender, experience, first, extra degrees and specific training

			Chi-Square	df	Asymp. Sig.	
CURRICULUM ACCESS		Age group	3,251	2	0,777	
		Gender	4,943	2	0,084	
	Have literacy and text comprehension problems	Experience	6,052	4	0,195	
		First degree	1,338	2	0,512	
		Extra degrees	7,198	8	0,515	
		Specific training	1.740	4	0.738	
		Age group	8,019	2	0,237	
		Gender	11,635	2	0,003	***
	Have problems with written language	Experience	7,832	4	0,098	
		First degree	3,488	2	0,175	
		Extra degrees	24,194	8	0,002	***
		Specific training	9.424	4	0.151	
		Age group	9,471	2	0,149	
		Gender	4,928	2	0,085	
	Have problems with numeracy	Experience	4,088	4	0,394	
		First degree	2,282	2	0,319	
		Extra degrees	7,031	8	0,533	
		Specific training	16.276	4	0,003	***
		Age group	5,323	2	0,503	

		Gender	2,174	2	0,337	
Always produce intelligible speech	Experience	3,705	4	0,447	
	First degree	1,644	2	0,440	
	Extra degrees	11,951	8	0,153	
	Specific training	5.649	4	0.227	

EMOTIONAL DEVELOPMENT		Age group	7,913	2	0,245	
		Gender	1,672	2	0,433	
	Do not have BESD	Experience	4,143	4	0,387	
		First degree	2,114	2	0,347	
		Extra degrees	5,614	8	0,690	
		Specific training	1.817	4	0.769	
		Age group	7,483	2	0,278	
		Gender	2,448	2	0,294	
	Have limited peer relations	Experience	4,889	4	0,299	
		First degree	3,311	2	0,191	
		Extra degrees	5,987	8	0,649	
		Specific training	14.732	4	0,005	***
		Age group	4,820	2	0,567	
		Gender	6,456	2	0,040	***
	Are self-confident	Experience	3,591	4	0,464	
		First degree	2,261	2	0,323	
		Extra degrees	24,170	8	0,002	***
		Specific training	1.139	4	0.888	

DEVELOPMENT NORMS		Age group	11,566	2	0,072	
		Gender	5,293	2	0,071	
	Grow out of their difficulties	Experience	7,466	4	0,113	
		First degree	0,140	2	0,932	
		Extra degrees	14,223	8	0,076	
		Specific training	0.523	4	0.971	
		Age group	9,035	2	0,172	
		Gender	2,905	2	0,234	
	Have been exposed to poor linguistic environments	Experience	11,677	4	0,020	***
		First degree	1,226	2	0,542	
		Extra degrees	17,130	8	0,029	***
		Specific training	5.371	4	0.251	

Appendix 8 (i): Mean CPM, DVIQ, SDQ and Impact scores (Standard Deviations) as a function of gender

	LI			TD		
		Gender			Gender	
	Female	Male	Effect size	Female	Male	Effect size
	Mean (SD)	Mean (SD)	Cohen's d	Mean (SD)	Mean (SD)	Cohen's d
	N= 9	N=21		N=9	N=21	
Age (in months)	93.33 (11.52)	93.10 (10.40)	0.02	92.44 (13.42)	94.10 (9.79)	0.14
CPM	17.33 (5.90)	20.81 (5.17)	0.63	27.56 (4.28)	24.81 (5.58)	0.55
DVIQ total	105.44 (32.19)	109.62 (26.89)	0.14	151.56 (12.91)	146.10 (17.17)	0.36
Word production	13.78 (6.38)	15.52 (5.33)	0.30	22.22 (2.05)	22.76 (4.67)	0.15
Morphology	33.67 (9.23)	33.62 (8.33)	0.01	43.89 (2.93)	42.81 (6.16)	0.22
Morphosyntax	5.44 (2.92)	5.00 (3.33)	0.14	11.11 (5.18)	9.81 (3.28)	0.30
Comprehension	52.56 (16.54)	55.48 (12.82)	0.20	74.33 (5.07)	70.71 (10.64)	0.43
SDQ (Total)	13.00 (5.87)	10.95 (5.73)	0.35	3.11 (2.57)	4.57 (4.14)	0.42
Emotional symptoms	2.22 (1.20)	2.43 (1.57)	0.15	1.11 (1.17)	1.29 (1.88)	0.12
Conduct problems	2.78 (1.56)	1.43 (1.86)	0.79*	0.22 (0.44)	0.38 (0.92)	0.22
Hyperactivity score	5.11 (2.76)	4.57 (2.23)	0.22	1.22 (1.48)	2.33 (2.15)	0.60
Peer problems	3.33 (2.40)	2.81 (2.36)	0.22	0.56 (1.13)	0.57 (1.12)	0.01
Prosocial behaviour	7.89 (3.18)	7.19 (2.40)	0.25	9.44 (0.88)	9.00 (2.35)	0.25
Impact (Total)	3.67 (1.73)	4.19 (1.50)	0.32			
Difficulties upset child	1.33 (0.87)	1.52 (0.68)	0.24			
Interfere peer relations	1.00 (0.87)	1.48 (0.60)	0.64			
Interfere with learning	1.67 (0.50)	1.81 (0.51)	0.28			

APPENDIX 8 (ii): Mean CPM, DVIQ, SDQ and Impact scores (Standard Deviations) as a function of school year

	LI				TD			
	School Year				School Year			
	Year1	Year2	Year3	Effect size	Year1	Year2	Year3	Effect size
	Mean (SD)	Mean (SD)	Mean (SD)	Eta squared	Mean (SD)	Mean (SD)	Mean (SD)	Eta squared
	N=10	N=10	N=10		N=10	N=10	N=10	
Age (in months)	81.30 (4.60)	93.00 (3.59)	105.20 (2.62)	0.886***	82.50 (2.59)	92.00 (6.34)	106.30 (3.02)	0.850***
CPM	16.80 (5.67)	21.60 (4.30)	20.90 (5.76)	0.151	23.50 (3.60)	25.50 (5.99)	27.90 (5.59)	0.119
DVIQ total	88.60 (23.00)	114.70 (29.16)	121.80 (21.94)	0.267*	136.90 (13.66)	152.10 (12.87)	154.20 (16.55)	0.240*
Word production	11.00 (5.42)	16.10 (5.22)	17.90 (4.04)	0.281**	20.50 (2.22)	22.40 (1.96)	24.90 (5.72)	0.207*
Morphology	28.60 (8.91)	35.20 (6.80)	37.10 (7.77)	0.192	42.10 (3.67)	43.90 (1.97)	43.40 (8.58)	0.021
Morphosyntax	4.00 (2.75)	5.10 (3.64)	6.30 (2.95)	0.091	8.50 (2.76)	11.40 (3.92)	10.70 (4.57)	0.104
Comprehension	45.00 (11.21)	58.30 (15.65)	60.50 (9.36)	0.254*	65.80 (8.00)	74.40 (9.00)	75.20 (8.84)	0.213*
SDQ total	13.50 (5.66)	9.00 (5.38)	12.20 (5.81)	0.112	3.60 (2.37)	5.40 (4.93)	3.40 (3.60)	0.059
Emotional symptoms	3.40 (1.27)	1.40 (0.97)	2.30 (1.42)	0.329**	0.60 (0.97)	1.70 (2.45)	1.40 (1.17)	0.079
Conduct problems	1.60 (2.17)	2.00 (1.49)	1.90 (2.03)	0.009	0.10 (0.32)	0.90 (1.20)	0.00 (0.00)	0.261*
Hyperactivity score	5.40 (3.06)	4.00 (1.76)	4.80 (2.10)	0.061	2.60 (1.65)	1.90 (2.28)	1.50 (2.12)	0.053
Peer problems	3.50 (2.12)	1.60 (2.55)	3.80 (1.87)	0.179	0.30 (0.95)	0.90 (1.45)	0.50 (0.85)	0.053
Prosocial behaviour	5.60 (2.27)	8.30 (2.41)	8.30 (2.41)	0.244**	9.60 (0.70)	8.40 (3.24)	9.40 (1.08)	0.070
Impact total	4.20 (1.48)	3.60 (1.71)	4.30 (1.57)	0.040				
Difficulties upset child	1.40 (0.84)	1.30 (0.82)	1.70 (0.48)	0.056				
Interfere peer relations	1.00 (0.67)	1.30 (0.82)	1.70 (0.48)	0.168				
Interfere with learning	1.80 (0.42)	1.80 (0.42)	1.70 (0.68)	0.009				

*p<0.05; **p<0.01; ***p<0.001