

Corso di Laurea Magistrale in
Scienze del Linguaggio

Tesi di Laurea

Language
comprehension and
production by an Italian
14-year-old adolescent:
a case study on a
student with Special
Educational Needs.

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Introduction

The present study investigates the language comprehension and production by an Italian 14-year-old adolescent. The main participant of this study, M., is an Italian student with Special Educational Needs (SEN in the UK, BES in Italy), which allows him to follow an individual education plan provided by the school board. His difficulties in learning are evident but not clearly distinguishable between specific language disability (DSA) and Specific Language Impairment (SLI). In order to investigate his language impairment, I administered him some standardized tests (Peabody PPVT-R, Test di Comprensione Grammaticale per Bambini TCGB and Prove di Valutazione Grammaticale dell'Italiano Scritto) and some non-standardized tests (a sentence repetition task, a passive sentence comprehension task, a passive sentence production task and a relative clause comprehension task). The standardized tests PPVT-R and TCGB were also administered to matched aged controls. Results from standardized tests revealed his poor vocabulary, his difficulties with negative, relative and dative sentences, and his low accuracy in the use of pronouns, articles and prepositions. Results from non-standardized tests showed that passive sentences are more preserved than relative clauses, confirming the results provided in previous studies (Cardinaletti & Volpato, 2011). Passive structures require the building of A-chains, while relative structures require the building of A'-chains, which seem to be more problematic in matter of processing. For what concerns relative structures, the asymmetry between subject relatives and object relatives was replicated in this study. The discrepancy is mainly explained in terms of the relation between the merging and landing positions of the moved element (Minimal Chain Principle) (Chomsky, 1995), and adopting the Relativized Minimality principle (De Vincenzi, 1991; Friedmann, et al., 2009). According to the Minimal Chain Principle, the movement involved in object relatives is longer than that involved in subject relatives. This is more costly in terms of the required computational processing both in childhood and in adulthood. According to the Relativized Minimality principle, the subject in the embedded object relative clause blocks the relation between the moved element and its trace. This causes difficulties in the interpretation of the sentences at all ages. In particular M. performed better in

the comprehension of subject relative clauses than of object relative clauses with a preverbal subject, which, in turn, were better comprehended than object relatives with a post-verbal subject. The asymmetry between the two types of object relatives and the difficulties found in the latter ones is due to the fact that subject-verb agreement involved in object relatives with post-verbal subjects is weaker than the double checked agreement involved in object relatives with preverbal subject (Volpato & Adani, 2009). The findings achieved in the present study replicated the results provided in studies investigating subjects with typical and atypical language development (Arosio et al., 2005) Volpato (2010, 2012). From the comparison of M.'s performance in standardized and non-standardized tests with normative data and recent findings in linguistic investigations on passive and relative constructions, it can be said that M.'s difficulties may be related to SLI. M.'s language difficulties display some linguistic behaviors which do not allow to consider it completely adherent to one of the specific language disabilities profiles such as, for instance, dyslexia. This does not imply that his impairment is easy to handle, on the contrary, it emerges the need for a more detailed investigation of his difficulties, in order to provide him a more effective support in learning.

The study is structured as follows.

It begins with an introduction on special educational needs on a wide perspective. Special educational needs represent a wide category which includes, among others, students with specific learning disability and specific language impairment. Among the specific language disabilities, dyslexia seemed to be the most suitable to M.'s case, therefore I provided a description of it. Dyslexia and SLI have many common features but also great differences, therefore I provided a description of specific language impairment and I compared it with dyslexia. The chapter continues with a description of the state of special educational needs in Italy and in the UK and finally a comparison between the two different approaches is provided.

Chapter 2 deals with the passive structure. The topic is discussed in the light of the most commonly adopted linguistic theories and focusing on the acquisition of passive sentences. Considering the state of literature on the acquisition of passives, despite the complex syntactic representation they imply, it emerges that passive sentences are acquired earlier than other structures Chilosi & Cipriani, 1995; Ciccarelli, 1998 - quoted in Guasti, 2007:199).

Relative clauses are presented in chapter 3, in which I provide a description of the specific properties of Italian relatives. Comprehension starts later than production in the process of children's acquisition of relative structures. The state of literature concerning comprehension and production are presented separately, focusing primarily on comprehension studies and recent findings. The studies taken into account investigated both typically developing subjects and subjects with atypical language development. The asymmetry between subject and object relatives is replicated in all the reported research findings. The relative clause construction appears to be very complex not only for children but also for adults and literature tries to account for the asymmetries found in this already problematic structure (SRs vs ORs, ORs vs ORps). Passive sentences and relative clauses are presented in detail since they are taken into account in the investigation of M.'s language comprehension and production through non-standardized tests.

The materials used to test M.'s language skills are described in detail in chapter 4. Starting from standardized tests, a general introduction to the procedure followed in the administration of this kind of tests is provided at the beginning of the chapter. In the following sections, all the different tests are described in terms of structure, materials, specific recommendations for the procedure, limits in the validity of the results, data on participants indenting periods.

Results are presented and discussed in chapter 5. In some cases (TCGB and Prove di Valutazione Grammaticale dell'Italiano Scritto), a qualitative analysis of the results is added to the quantitative one. A short discussion on clitic pronouns is provided in order to account for M.'s production in the task included in Prove di Valutazione Grammaticale dell'Italiano Scritto, investigating clitic pronouns. Finally, conclusions are drawn in chapter 6, followed by some personal comments. All the materials illustrated in section 4 and 5 are collected respectively in Appendix A and B.

1 Meaning of BES and possible linguistic implications

1.1 Introduction

The following section provides information about special educational needs in Italian and British school systems. First the meaning of the terms BES and SEN is explained and a general presentation of the topic in both countries is provided in section 1.2. A deeper description of two of the special needs formerly presented is provided in section 1.2.1 (Specific Learning Disability) and in section 1.2.2 (Specific Language Impairment). The first includes a detailed account on Dyslexia (section 1.2.1.1). A presentation of the legislation currently in use in Italy is given in section 1.3, while its counterpart UK legislation is provided in section 1.4. Finally, the main participant of this study is introduced in section 1.5.

1.2 BES (Special Needs in Education)

BES and SEN are acronyms used in different countries to define the same concept: *Bisogni Educativi Speciali* ('Special Educational Needs'). In Italy, the term BES was officially used after the Ministerial Directive published on 27th December 2012 *Strumenti di intervento per alunni con Bisogni Educativi Speciali e organizzazione territoriale per l'inclusione scolastica* ('Tools of intervention for students with Special Educational Needs and territorial organization for scholastic inclusion'). In the Directive, it is stated that in each class there are students who need special care for various reasons: cultural and social disadvantages, specific learning disorders and/or specific developmental impairments, difficulties in learning given to the lack of knowledge of Italian culture and Italian language. Therefore BES indicates a wide range of students for whom the principle of the personalization of learning program, approved by the Italian Law 53/2003, must be applied with particular attention in matter of peculiarity, intensity and lasting of the modifications.

In the UK, the acronym SEN is an umbrella term for an aspect of school education focusing on students primarily with learning difficulties and/or disability. SEN Code of Practice, originally released in 2001, provides non-binding guidance on how provision should be shaped and maintained.

The category of BES/SEN includes the following typologies of problems in both Italy and UK:

- autism;
- foreign mother tongue learners;
- deafness;
- deaf-blindness;
- other visual impairment, including blindness;
- emotional disturbance;
- hearing impairment;
- intellectual disability;
- multiple disabilities;
- orthopedic impairment;
- other health impairment (including ADHD - Attention Deficit/Hyperactivity Disorder);
- DSA/Specific Learning Disability (dyslexia, dysgraphia, dyscalculia, dysorthography, etc.);
- Specific Language Impairment (SLI);
- traumatic brain injury

M. is the main participant of this study. He is a 14-year-old male student, grown up in the North-Eastern part of Italy. He has some difficulties in learning and he has been helped by a support teacher in the period that covered primary and secondary school years. Since he entered high school, he was included in the BES category. The type of deficit that affects him is not specified. Considering his case, focusing only on dyslexia and/or SLI as causes of his learning difficulties, it is necessary to pay attention to the learning support system provided by the school according to the country legislation on BES/SEN.

The aim of drawing attention to this topic is to point out which measures and strategies are employed in schools to support the learning process and development of children with such

difficulties. Due to the wide range of problems included in the same big category, scholastic inclusion is not easy while personalized specific strategies are often required. The general pattern followed by educational institutions in both countries is that of building specific support plans for each child, considering his/her past (early tests, diagnosis, medical suggestions), his/her present (skills, improvements, weaknesses) and his/her future (what school he/she wants to apply for, possibilities, dreams). The approach to this common pattern is different among the countries though.

The Italian education system essentially leaves the decision to the school board which can model a specific plan for the child at the beginning of each scholastic year. The intervention of a professional support teacher is involved only in accordance with the school board decision. In high school only students with handicap can apply to the school board for a professional support teacher.

Across the UK school education system, the provision for SEN is varied: learning support teams in mainstream schools, specialist schools offering permanent placements and pupil referral units offering temporary placements. However there are common practices all over the country. All schools are forced to maintain a SEN Coordinator position, a mandatory position other than the head teacher. The non-binding guidance is provided by the LEA (Local Education Authority) through the SEN Code of Practice (2001). Strategies employed to enable the child to progress are recorded within an Individual Education Plan (IEP).

A more detailed comparison between Italian and British situations will be provided in 1.4.

1.2.1 DSA (Specific Learning Disorders)

The Italian Law number 170, enacted on the 8th October 2010, recognizes dyslexia, dysgraphia, dyscalculia and dysorthography as DSA (*Disturbi Specifici dell'Apprendimento* - 'Specific

Learning Disability’). The Individuals with Disabilities Education Act¹ (IDEA) defines Specific Learning Disability as a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. Both in Italy and in the UK Specific Language Impairment is not covered under this category.

1.2.1.1 Dyslexia

The term refers to a specific impairment which affects the acquisition of reading and spelling skills, despite adequate intelligence, opportunity and social background. It occurs in the absence of physical, neurological, emotional, socio-economical or educational problems. Q.I. and reading comprehension abilities are measured through standardized tests in order to determine whether a child is suffering from dyslexia or not. Phonological skills and working memory are the main elements taken into account in order to detect dyslexia in a subject (Stanovich, 1988; Siegel, 1999). Many clinical classifications of developmental dyslexia have been proposed. Bakker (1990) suggested that there are three types of dyslexia:

1. Linguistic dyslexia (normal reading speed but many omissions or substitutions of words or letters);
2. Perceptual dyslexia (slow reading but not too many mistakes);
3. Mixed dyslexia (slow reading speed and many omissions or substitutions of words or letters).

Another classification was proposed by Piccoli (2008):

- Phonological dyslexia (difficulties in reading non-words);
- Superficial dyslexia (easy reading of non-words but difficulties in normal reading);
- Deep dyslexia (difficulties in both non-words and normal reading).

¹ The Individuals with Disabilities Education Act is a federal law enacted in 1990 by the government of UK and reauthorized in 1997 and 2004. It was designed to protect the rights of students with disabilities by ensuring that everyone receives a *Free Appropriate Public Education* (FAPE), regardless of ability.

Although literature on dyslexia is rich, some recent international studies on SLI and developmental dyslexia have pointed out the problem of no clear distinction between the two disorders (Bishop & Snowling, 2004; Catts et al. 2005). Catts et al. (2005) treated dyslexia and SLI as distinct points on the same severity continuum, as different developmental disorders with distinct cognitive deficits and distinct behavioral expressions. Bishop & Snowling (2004) stated that in recent times SLI and dyslexia are often regarded as different manifestation of the same underlying problem. The authors argue that this merging causes underestimation of the independent influence of two different deficits such as the semantic and the syntactic ones. They suggest that two dimensions of impairment are needed to conceptualize the relationship between the two disorders, which cannot be considered different only in matter of severity. The debate is still open and linguistic researchers are still trying to reach a unifying point among the various theories.

1.2.2 SLI (Specific Language Impairment)

SLI is an impairment in language acquisition affecting populations with normal intelligence and hearing, without visible neurological or psychological problems and/or social and economical difficulties (Fabbro, 2000). In children with SLI, language acquisition is considerably damaged. Leonard (2000) lists a series of criteria to determine whether a child is affected by SLI. He states that the diagnosis is based more on exclusion than on inclusion. A diagnosis of language problems are usually quite simple to make. The difficult part is to distinguish SLI from other disabling conditions of which the language problems are only a part. Recent development in the research on SLI are improving methods to solve this problem. The following list, provided by Leonard (2000) is a summary of the aspects which are usually taken into account and tested before the words Specific Language Impairment can be used:

- Language ability (language test scores of -1.25 standard deviations or lower);
- Nonverbal Q.I. (85 or higher);

- Hearing (pass screening at conventional levels);
- Otitis media with effusion (no recent episodes);
- Neurological dysfunction (no evidence of seizure disorders, cerebral palsy, brain lesions; not under medication for control of seizures);
- Oral structure (no structural anomalies);
- Oral motor function (pass screening using developmentally appropriate items);
- Physical and social interaction (no symptoms of impaired reciprocal social interaction or restriction of activities).

However standardized tests scores serve only as the starting point. The tests inclusionary criteria can be quite broad in scope and it is necessary to focus on the detail by analyzing the child's actual language functioning.

Some common features of SLI are easy to be detected in many other learning disabilities, like:

- language emerges later age than in typically developing children;
- inflectional morphology impairment;

There are other interesting differences though, depending on the extension of the impairment, which make SLI a unique and specific impairment:

- only some parts of inflectional morphology are compromised;
- also some areas of the grammatical knowledge can be affected;
- the process of words acquisition seems weaker (in particular that of verbs);
- not severe phonological deficits;
- impairment in the reception or in the expression of linguistic messages.

Several theories try to define SLI by describing its unique characteristics but none of these theories seems to fulfil the aim of providing a complete and exhaustive explanation (Rizzato, 2013). One interesting theory is the Computational Complexity Hypothesis. According to Van der Lely (1998) SLI is seen as a derivation problem in the syntactic computational system. The hypothesis takes its origins in Chomsky's Minimalist Program (1995), stating that long-distance

dependencies need movement (the attraction of features in a different position in the sentence structure for the feature checking). The idea supported by this theory is that grammatical errors in SLI is caused by a deficit of the movement. Therefore all elements constituting syntactical dependencies may cause problems to students with SLI. More elaborated tests are needed in order to analyze in detail the language deficit. Recent studies are focused on the creation of these kinds of more complex tests. An example is the investigation of subject and object relative clauses in a group of university students with Specific Learning Disability. The study was aimed at detecting which linguistic element or syntactical dependency is affected by deficit (Cardinaletti & Volpato, 2011).

1.3 Italian legislation about BES

The individual education plans for BES students in Italy are based on a series of laws and ministerial directives. The following list includes all laws, notes and decrees taken into account in order to state M.'s individual education plan in the year 2013:

- Law 59/1997 (article 21);
- DPR 275/99 'Regulation that brings rules in matter of autonomy of Scholastic Institutions';
- Law 53/2003;
- Ministerial note MIUR 4099/A4, 5.10.04 'Initiatives on dyslexia';
- Ministerial note MIUR 26/A4, 5.01.05 'Initiatives on dyslexia';
- Ministerial note MPI 4674, 10 May 2007 'Learning disabilities - Operative indications';
- Indications for the curricular program for preschool and primary school D.M. 31/07/2007
- A.I.D. Associazione Italiana Dislessia (Italian Association Dyslexia) - School Committee 2008 scuola@dislessia.it;
- CM 28.05.2009 (Individual plans);
- DPR n.122, 22 June 2009 (Article 10);
- Law n.170, 8 October 2010;

- Guiding lines at D.M., 12 July 2011;
- DM 27/12/2012: ‘Tools of intervention for students with special educational needs and territorial organization for scholastic inclusion’;
- CM n.5 Protocol 561, 06/03/2013: ‘Operative indications on DM 27/12/2012’.

The following lines can be found in a selection of texts taken from some of the laws and notes listed above. The most meaningful information was collected and summed up at the end of this section.

DPR 275/99 ‘Regulation that brings rules in matter of autonomy of Scholastic Institutions’

L’autonomia delle istituzioni scolastiche si sostanzia nella progettazione e nella realizzazione di interventi adeguati alle caratteristiche specifiche dei soggetti coinvolti [...] con l’esigenza di migliorare l’efficacia del processo di insegnamento e di apprendimento.

‘Autonomy in scholastic institutions is made concrete through the planning and realization of adequate interventions...(adequate) to the specific characteristics of the subjects involved [...] with the need of improving efficiency in the process of both teaching and learning.’

Spetta alle singole istituzioni scolastiche autonome definire ed attuare un curricolo di scuola, da intendersi quale sintesi progettuale ed operativa delle condizioni pedagogiche, organizzative e didattiche che consentono di realizzare un insegnamento efficace ed adeguato agli alunni, nel rispetto degli indirizzi curriculari di carattere nazionale” [...]

‘It is up to the single scholastic autonomous institutions to define and apply a scholastic curricular program, which should be meant as planning and operative synthesis of the pedagogic, organizational and didactic conditions that allow to realize an efficient teaching adequate to the students, respectfully of the national general classifications of different school programs [...]’

Ministerial note MIUR 4099/A4, 5.10.04 'Initiatives on dyslexia'

La dislessia è un disturbo specifico di apprendimento che può verificarsi in ragazzi per il resto normali, cioè senza handicap neurologici o sensoriali o condizioni di svantaggio sociale. Per gli strumenti dispensativi, valutando l'entità e il profilo della difficoltà, in ogni singolo caso, si ritiene essenziale tener conto dei seguenti punti:

- *Dispensa dalla lettura ad alta voce, scrittura veloce sotto dettatura, uso del vocabolario, studio mnemonico delle tabelline.*
- *Dispensa, ove necessario, dallo studio della lingua straniera in forma scritta.*
- *Programmazione di tempi più lunghi per prove scritte e per lo studio a casa.*
- *Organizzazione di interrogazioni programmate.*
- *Valutazione delle prove scritte e orali con modalità che tengano conto del contenuto e non della forma.*

'Dyslexia is a specific learning disability that can affect children who appear as normal children, e.g. without neurological or sensorial handicap or disadvantaged social conditions. For what concerns the dispensation tools, after evaluation of the severity and the profile of the difficulties, in each single case, it is essential that these issues are taken into account:

- *Dispensation from reading out loud, fast writing under dictation, use of the dictionary, memorize the multiplication tables.*
- *Dispensation, when it is needed, from foreign language study in the written form.*
- *Planning longer times for written tests and for home study.*
- *Organization of previously programmed oral exams.*
- *Evaluation of written and oral tests with modalities which must take into consideration the content and not the shape.'*

CM 28.05.2009 (Individual plans)

Per quanto riguarda gli alunni con diagnosi specialistica di dislessia o di altri disturbi specifici di apprendimento [...] si ricorda che essi hanno diritto all'impiego di strumenti compensativi, come indicato nella nota ministeriale prot.26/A del 4 gennaio 2005, oltre all'assegnazione di maggior tempo a disposizione per lo svolgimento delle prove.

‘For what concerns students with diagnosis of dyslexia or other specific learning disabilities [...] we remind you that they have right to use compensation tools, as indicated in the ministerial note protocol 26/A, 4th of January 2005, in addition to the possibility of doing the exam in longer time.’

DPR n.122, 22 June 2009 (Article 10)

Valutazione degli alunni con difficoltà specifica di apprendimento (DSA)

- *Per gli alunni con difficoltà specifiche di apprendimento (DSA) adeguatamente certificate, la valutazione e la verifica degli apprendimenti, comprese quelle effettuate in sede di esame conclusivo dei cicli, devono tener conto delle specifiche situazioni soggettive di tali alunni.*
- *A tali fini, nello svolgimento dell'attività didattica e delle prove d'esame, sono adottati, nell'ambito delle risorse finanziarie disponibili a legislazione vigente, gli strumenti metodologico- didattici compensativi e dispensativi ritenuti più idonei.*
- *Nel diploma finale rilasciato al termine degli esami non viene fatta menzione delle modalità di svolgimento e della differenziazione delle prove.*

‘Evaluation of students with specific learning disability

- For students with specific learning disabilities correctly certificated, the evaluation and the testing of their learning, included those tests performed in final exams period, have to take into account the specific subjective situations of those students.

- In order to reach these purposes, during educational activity and during exams, according to the available financial sources allowed by the present legislation, the most adequate methodological-didactic compensation and dispensation tools must be used.
- In the final diploma released at the end of the exams the modality of the exam and the differentiation of the tests is not mentioned.'

Despite the difficulty of finding concrete instructions among all laws and following modifications of them, some useful information emerged. It can be found that not only medically diagnosed students with special educational needs are involved in BES project but also those who cannot be precisely described through a medical/linguistic diagnosis (e.g. students with specific learning disability like dyslexia). The children who apply for school support system and individual education plan must provide a certification of special educational needs, which can be both medical and of different nature). The school council will take into consideration the certification and will discuss the possible inclusion of the child in a special education plan. The school council, according to the national instructions on school programs, has the autonomy and the responsibility to state the terms of the individual plan. For children with specific learning disabilities, such as dyslexia, there are particular dispensation models which can be followed. The individual plan is modeled on the specific characteristics of the subject involved and it is usually based on dispensation from some activities, organization of programmed exams, more attention paid to the content than to the shape of the student's test production, longer time to solve tasks. There are special instructions concerning the final exams, specifying that the evaluation must take in consideration the subject disability and that in the diploma these special conditions must not be mentioned.

Reading throughout the laws and notes it can also be noticed what is scarcely or even not mentioned at all. If dyslexia seems to be well known in the scholastic system and there are consequently approved protocols to help with this problem, other types of special needs are scarcely taken into account. In particular, SLI is not even mentioned.

That of the professional support teacher appears to be a very complex issue, though poorly documented in the laws. It can be generally said that professional support teachers are not always

involved in BES individual plans, depending again on the teaching council decision and on the school level the students is applying for. In preschool, primary and secondary school a support teacher is easily assigned but from high school on, professional additional teachers are only employed in particular severely compromised cases (e.g. students affected by severe handicap).

1.4 SEN: Special Educational Needs in the UK (comparison)

The unique official document dealing with Special Educational Needs in use since the 1st of January 2002 is the SEN Code of Practice, provided in 2001 by the LEAs, Head Teachers and Governors of Schools, early education practitioners and other interested parties. The development of this document can be traced in the following passages:

- 1993: Education Act. It placed a duty on the Secretary of State to issue a Code of Practice and the power to revise it from time to time;
- 1994: the first Code of Practice. Since it came into effect, the rights and duties contained in the 1993: Act have been consolidated ;
- 1996: Education Act. his Code of Practice replaces the 1994 Code in England;
- 1999 (January): consultation on proposals for changes to the Code of Practice ;
- 2000 (July-October), subsequent consultation with LEAs, schools, SEN voluntary bodies, the health and social services, and others on a draft of a revised Code;
- 2001: the draft was then revised in the light of comments from all interested parties, and subsequently laid before and approved by Parliament (SEN Code of Practice).

The SEN Code of Practice takes account of the SEN provisions of the Special Educational Needs and Disability Act 2001. In particular it is aimed at improving the following issues:

- stronger right for children with SEN to be educated at a mainstream school
- new duties on LEAs to arrange for parents of children with SEN to be provided with services offering advice and information and a means of resolving disputes;
- new duty on schools and relevant nursery education providers to tell parents when they are making special educational provision for their child;

- a new right for schools and relevant nursery education providers to request a statutory assessment of a child.

The Code contains separate chapters on provision in the early years, primary and secondary phases and new chapters on: working in partnership with parents; pupil participation and working in partnership with other agencies. The Code also recommends that, in order to help in matching special educational provision to children's needs, schools and LEAs should adopt a graduated approach through *School Action* and *School Action Plus* and *Early Years Action* and *Early Years Action Plus* in early education settings.

In particular, each of the sections dedicated to different school levels, the Code contains very detailed information about how to deal with a special educational need student:

- the early identification of the child's problem;
- language issues;
- how the National curriculum is structured;
- how the child's responses should be graduated;
- instructions for keeping record of them;
- information about how to work with other providers of support;
- how the social services can be involved;
- the role of SENCO in mainstream schools;
- time required for SEN coordination;
- how the children's progress should be monitored;
- the school action; the nature of the intervention;
- how to arrange an Individual Education Plan (IEP);
- the School Action Plus;
- the school request for statutory assessment;
- how to deal with a possible school transfer;
- how to work with children with statements of special educational needs;
- the annual review.

It emerges that across the UK school education system, the provision for SEN varies from learning support teams in mainstream schools, specialist schools and pupil referral units. Among them, however, the government expresses its preference for mainstream schools to be adequately prepared to deal with children requiring a SEN treatment. In order to reach this goal, common practices and rules are applied all over the country. The Code provides a non-binding guidance which consists of special strategies to help teachers and families to cooperate in the education of the children. In each school department there is a control system, the SEN Coördiantory position, and tools like the IEP (Individual Education Plan) are employed differently according to each single case.

Chapter 7 (Statutory Assessment of Special Educational Needs) deals in particular with all kinds of special needs that children can have:

- Communication and interaction needs;
- Cognition and learning needs;
- Behaviour, emotional and social developmental needs;
- Sensory and/or physical needs;
- Medical conditions.

The section on Communication and interaction needs includes the case of Specific Language Impairment, while the Cognition and learning needs section mentions cases of Specific Learning Disability, including dyslexia.

Each section is followed by a list of teaching suggestions about what children with these specific needs could require. In the case of Communication and interaction needs they could require:

- flexible teaching arrangements;
- help in acquiring, comprehending and using language;
- help in articulation;
- help in acquiring literacy skills;
- help in using augmentative and alternative means of communication;
- help to use different means of communication confidently and competently for a range of purposes, including formal situations;

- help in organizing and coordinating oral and written language;
- support to compensate for the impact of a communication difficulty on learning in English as an additional language;
- help in expressing, comprehending and using their own language, where English is not the first language.

In the case of Cognition and learning needs they could require:

- help with processing language, memory and reasoning skills;
- help and support in acquiring literacy skills;
- help in organising and coordinating spoken and written English to aid cognition;
- help with sequencing and organisational skills;
- help with problem solving and developing concepts;
- programmes to aid improvement of fine and motor competencies;
- support in the use of technical terms and abstract ideas;
- help in understanding ideas, concepts and experiences when information cannot be gained through first hand sensory or physical experiences.

In addition to these general notes, more detailed information about IEP planning can be found in the SEN Toolkit, which provides all practical and concrete measures that are more generally explained in the Code. It gives instructions about how to write a IEP and to follow its development during time. It also specifies the possibility to employ specialists to support children in their learning at school/at home activity.

Both SEN Code of Practice (2001) and the most recent version of SEN Toolkit (2014) are available on the UK government website.

The following Table shows the most striking differences between Italian and British legislation regarding Special Educational Needs.

Table 1. Italian and British legislation on BES/SEN (comparison)

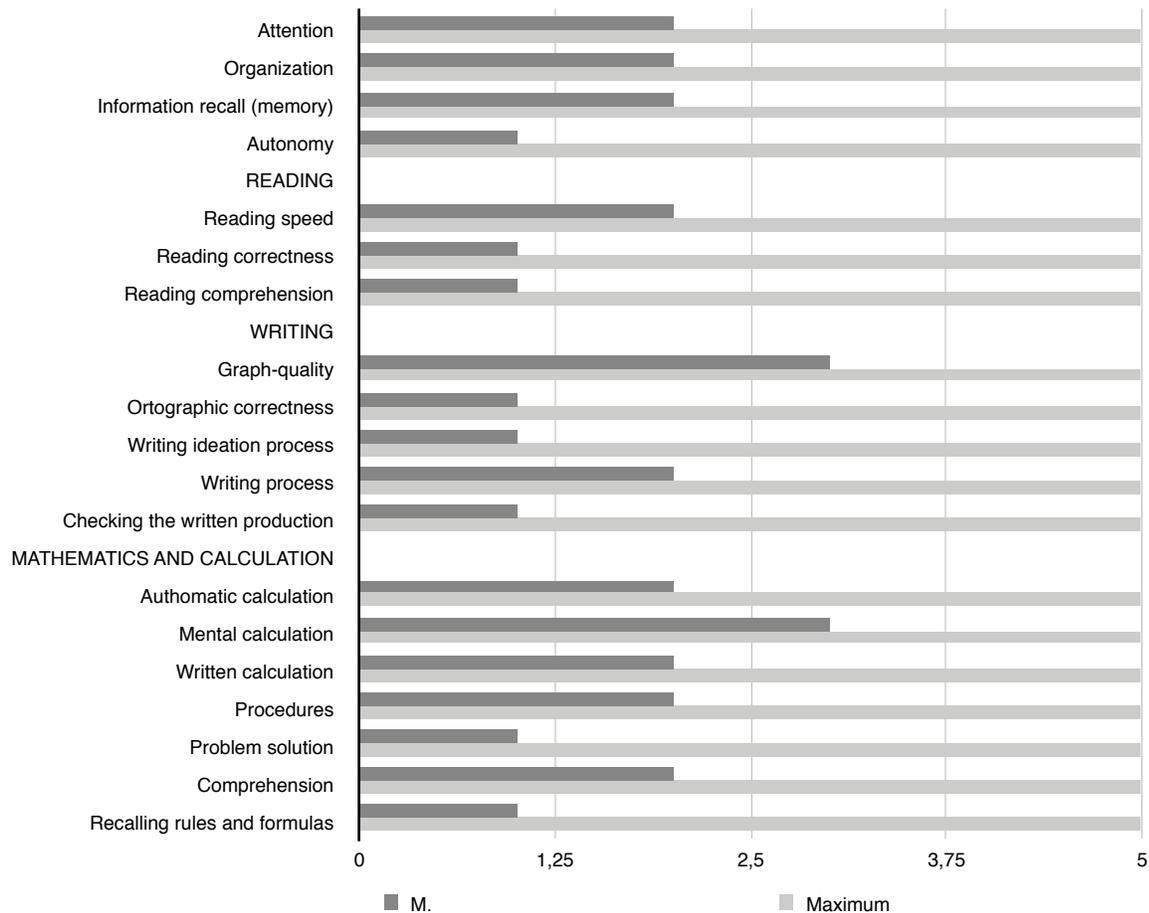
Italy (BES)	UK (SEN)
15 official documents to take into account in order to create a IEP	2 official documents to take into account in order to create a IEP
1 clear strategy plan (only for dyslexic children)	5 clear strategy plans for all special needs
No mentions of SLI	Mentions of SLI
Difficult to distinguish between the strategies used at different school levels	Easy to catch the distinction of strategies among different school levels (a section dedicated to each of them)
Difficult to understand in which cases a professional support teacher can be involved	Easy to understand in which cases a professional support teacher can be involved (LEA decides on the basis of the child's need)
No mention of family and school cooperation	Specific mention of family and school cooperation (fundamental)
No information about monitoring the children's development	Specific information about monitoring the children's development
No clear instructions about which institutions should take in charge the child's case	Map of the responsibilities

1.5 The main participant

M. is the main participant of the present study. He is a 14-year-old male student living in the North-Eastern part of Italy and attending the second year of high school in a professional institute. He lives with his parents and he has no brother or sisters. The languages spoken at home are Italian and the dialect spoken in his area. I have been M.'s tutor for more than one year, helping him to learn English and Italian Grammar. After the first lesson I realized that his learning and acquisition processes were different from those of a normal 14-years-old student so I tried to find out what the problem was by asking his mother for further information. M. was first diagnosed in early age but their parents didn't want me or anybody else to know about his early tests results. M. had been followed by various support teachers until the end of his secondary school period (7 years in the Italian education system). His difficulties in learning continued in high school but the legislation allowed no other support teacher. Fortunately his parents could provide extra hours of lesson by private tutors. It seemed to be not enough though: the learning process takes much more time and much more effort than his mates. His day usually

starts at 5 am with two hours of study, then school from 8 to 2 pm and, after school, study again till 10 or 11 pm. In accordance with the previously listed Italian laws and rules, as he entered high school, the school council analyzed his case at the beginning of the school year in order to provide him with an individual education plan. They took into consideration the support intervention he took advantage of from the second year of primary school until the third year of secondary school. This intervention was required and approved by the social-health hospital district ULSS 13 North Area, which provided a certification for his special needs. The high school council considered also how long his attention lasts; how good he is in the organization of work; the efficiency of his memory in recalling information; how autonomous he is in school tasks; his reading and writing abilities and his calculation capacity. They also checked the level of awareness of his personal acquisition method, stating that it was not sufficient. In Figure 1 the council's evaluation on M.'s skills at the beginning of high school is reported.

Figure 1. M.'s screening by high school council



An individual education plan for M. was finally described based on: didactic strategies and methodologies used by the teachers; compensating materials; tasks that he could avoid; personal strategies for learning both at school and at home; recommended instruments for homework; tests and evaluation criteria. Figure 2 shows the individual education plan arranged by the school council for M. on the basis of the approved laws on BES.

Figure 2. M.'s individual education plan

Didactic strategies and methodologies	<ul style="list-style-type: none"> - create a good atmosphere in the classroom by making diversity a matter of respect and acceptance; - when it's possible, organize group or couple activities in order to encourage inclusion; - vary the methods in the presentation of topics (e.g. audio and video materials); - check if he has completely understood the tasks; - teach him different learning strategies (e.g. schemes and images); - give him more time to complete the tasks.
Compensating materials	<ul style="list-style-type: none"> - schemes, maps of the concepts, lists of rules and formulas (produced by himself); - tables of the measures and of the geometrical formulas; - electronic calculator.
Tasks that can be avoided	<ul style="list-style-type: none"> - knowledge of all the formulas by heart (more importance should be given to the real comprehension and correct use of them); - being able to carry out his tasks in the same time of his mates; - knowledge of other disciplines which are not required.
Personal strategies to learn better	<ul style="list-style-type: none"> - highlight words and find out keywords, build schemes and graphics; - memorizing strategies (use of colors and pictures); - learn with a tutor.
Recommended instruments for homework	<ul style="list-style-type: none"> - Computer
Tests and evaluation criteria	<ul style="list-style-type: none"> - previous agreement on the tests with the teachers; - more oral exams than written ones; - allowed didactic materials during tests (e.g. list of mathematic and geometric formulas); - more time to carry out the test or shorter tests; - more attention should be put on the correctness of the content than to the shape.

The aim of this study is to go deeper into the analysis of his difficulties through the administration of specific tests. In particular the study focused on two possible causes of his difficulties: dyslexia (inscribed among DSA - Specific Learning Disabilities) or SLI (Specific Language Impairment). In the light of what has been previously discussed with respect to Italian legislation about the treatment of students with special educational needs, the present work tries to underline which critical issues arise from the described situation. The results of the present study could be useful in planning a more specific and efficient support for his learning.

2 The acquisition of passive sentences

2.1 Introduction

In this section the passive voice is briefly introduced according to the most commonly adopted linguistic theories (section 2.2). A brief view on literature on the acquisition of passive voice is provided in section 2.3. The main theories about passive sentences acquisition will be presented more in detail in sections 2.3.1, 2.3.1.1 and 2.3.2. Sections 2.3.3 and 2.3.4 present recent studies on the acquisition of passives in typically developing subjects and in atypical subjects. Finally the conclusion will be found in section 2.4.

2.2 Passive voice

In human languages active and passive voices can be distinguished. In active sentences (1), the external argument, namely the subject of the action (*Sara*), receives the thematic role of agent, which is attributed to the doer of the action. The internal argument, namely the object of the action (*Robert*), can be the patient or the receiver of the action.

- (1) Sara bacia Robert
‘Sara bacia Robert’

In the passive sentence in (2) the internal argument becomes the grammatical subject. The external argument becomes an agent expressed through a prepositional phrase headed by the preposition *da* (‘by’). In some cases the agent is omitted because the information is not particularly relevant for the message.

- (2) Robert è baciato da Sara
Robert is being kissed by Sara

According to Chomsky (1980), on surface structure level (S) *Robert* appears to be the subject and *Sara* a complement of the action *è baciato* ('is being kissed'). On the level of deep structure (D) though, *Robert* is the direct object of the verb. On D level basic thematic relations are coded following the argumental structure of the verb (3). The thematic external role of the verb is assigned to the prepositional phrase introduced by the preposition *da* ('by'). The subject position turns to be empty because no argument is placed there. What happens in S is that *Robert* moves to the subject position, receiving nominative case (4). Consequently the internal argument position under the projection of VP is left empty (t).

(3) [IP t [è [VP baciato [DP Robert]] da Sara]
 [IP t [is being [VP kissed [DP Robert]] by Sara]

(4) [IP Robert_j [I' è [VP baciato [t_j]] da Sara]
 [IP Robert_j [I' is being [VP kissed [t_j]] by Sara]

The two different auxiliaries which are used in Italian to build passive sentences are *essere* ('to be') and *venire* ('to come'). The main difference between the use of *essere* and *venire* lays in the interpretation. While passive sentences with *essere* (without by-phrase) can have stative, resultative or eventive interpretation as (5) shows, passive sentences with *venire* are interpreted only with eventive meaning, as (6) shows.

(5) La finestra è aperta

- a. 'The window is open' (STATIVE)
- b. 'The window is opened' (RESULTATIVE)
- c. 'The window is being opened' (EVENTIVE)

- (6) La finestra viene aperta
the window comes opened
'The window is being opened'

In sentences like (5) the word *aperta* ('opened') can be interpreted as both an adjective (adjectival passive) and a verb (verbal passive). In order to disambiguate passive sentences with *essere*, the *by*-phrase must be added (7). The *by*-phrase can be also added to sentences with *venire*, as in (8).

- (7) La finestra è aperta da Robert
'The window is being opened by Robert'

- (8) La finestra viene aperta da Robert
'The window is opened by Robert'

In the sentence reported in (7) the word *aperta* ('opened') can be considered only as a verb (verbal interpretation).

2.3 The acquisition of passive sentences

The acquisition of passive sentences is at the centre of a lively cross-linguistic debate. While literature is rich in studies on many different languages, Italian data on this topic are still scarce. I will now provide a short review of the state of literature on the acquisition of passives in different languages.

Horgan (1978) observed that children aged 2;0 - 3;0 mainly produce *stative* passives, describing states rather than events. The author showed also that short passives, lacking the *by*-phrase, are comprehended and produced earlier than long passives, containing the *by*-phrase. However the general assumption of early studies was that children are not able to handle passives at until at

least the age of five or six. Maratsos et al. (1985) challenged this assumption showing that 4-year-old children are only partially unable to handle passives. In fact children tested by Maratsos et al. (1985) failed in comprehension tasks involving non-actional passives, but they understood and produced correctly actional passives. Hirsch & Hartman (2006) named ‘Maratsos effect’ this difference between the acquisition of actional and non-actional passives, the former being acquired earlier than the latter. This discrepancy between actional and non-actional verbs is mainly thematic: actional verbs (like push, hug, hit) select as their external argument a thematic role which represents the cause of an action (agent, instrument); non-actional verbs (like love, hear, see) select as their external argument a thematic role which does not represent the cause of an action (experiencer, goal, patient) (Reggiani, 2010).

Studies on the acquisition of passives in Hebrew and German, in which adjectival and verbal passives are clearly distinguished by each other, showed that adjectival passives are mastered before verbal passives (Berman & Sagi, 1981; Mills, 1985).

Pinker, Lebeaux and Frost (1987) showed that children comprehended and produced passives with both actional and non-actional verbs, with and without the *by*-phrase. Demuth (1989) investigated the spontaneous speech of 2;0 year old children speakers of Sesotho (which is a Southern African Language), and observed that these children were able to produce passive sentences with the *by*-phrase.

Studying the comprehension of passive sentences by children, Chilosi & Cipriani (1995), Ciccarelli (1998) quoted in Guasti (2007:199) found that passive sentences are comprehended and produced at early ages (80% of accuracy at age 5-6).

In order to account for the acquisition of passives, several hypotheses have been proposed. In the following section I will provide a description of the theories that have been mainly taken into account and further investigated: the ‘Maturation Hypothesis’ (Borer & Wexler, 1987) and the ‘Theta-role Deficit Transmission Theory’ (Fox & Grodzinsky, 1998).

2.3.1 The Maturation Hypothesis

According to Jaeggli (1986), the passive structures are characterized by three morpho-syntactic operations:

- a. The external theta role (and case) absorption
- b. The A-movement to Spec-IP
- c. The theta transmission in long passives

If one or more of these operations is not available, then the passive structure is compromised. Borer & Wexler (1987) proposed that young children cannot produce verbal passives because A-chain structure is not available at early ages. Therefore they claimed that children cannot assign the thematic role to the moved object because of the difficulty they have with A-movement. The mechanism becomes available only after a certain age. This led Borer and Wexler to hypothesize that the A-movement is subject to maturation. Initially children can only produce adjectival passives, only in later age they can build verbal passives. The Maturation Hypothesis is therefore the assumption that grammar needs a maturation. It assumes that every child is born with a grammar which lacks some mechanisms and that these mechanisms will be acquired at some ages. The A-Chain Deficit Hypothesis (ACDH) is the proposal that A-movement is present in a mature grammar and absent in an immature grammar. Hence, the ACDH is a hypothesis derived from the Maturation Hypothesis.

2.3.1.1 The Maturation Hypothesis revisited

Wexler (2004) had to deal with some flaws of the ACDH. It was observed that children's problems in the acquisition of passives do not specifically reside in constructions involving A-movement. A first problem for ACDH lies in the VP Internal Subject Hypothesis (VPISH). The VPISH (Koopman and Sportiche 1991) affirms that the subject of the verb is base-generated in

SpecVP and then it moves to SpecIP to receive case. V P I S H is today broadly accepted in linguistic theory. The movement of the subject is therefore an instance of A-movement. If this maturational hypothesis is valid, then children are not supposed to build sentences like (9) (Guasti, 2002):

(9) Sara will jump

Since children do produce sentences like (9) and it is known that children are not delayed in correctly placing the subject outside the VP (Stromswold, 1996), the A-chain formed between the moved subject and the coindexed trace in VP cannot be the cause of children's difficulties with passives.

In order to save ACDH, Borer & Wexler (1992) tried to keep the assumption that only "non-trivial" A-movement is problematic for children who are not matured yet. A non-trivial movement is a movement which links two potential theta-role positions. The movement of the DP in passive sentences is an example of non-trivial movement: the DP crosses the VP, landing on SpecVP and then moving again to SpecIP, two potential theta positions. Hence, Borer & Wexler (1992) created a modified version of the ACDH, called by Fox and Grodzinsky (1998) 'Relaxed Maturational Hypothesis'.

Babyonyshev et al. (2001) proposed to assume a different acquisitional principle and to switch from ACDH to EARH (External Argument Requirement Hypothesis). According to EARH immature children take as ungrammatical those structures containing defective verbs (light verbs which do not select any external argument). Defective verbs characterize passive and unaccusative constructions. EARH gave an account for children's difficulties with these structures. Some problems with EARH (and ACDH too) came from raising constructions though. Data from Hirsch & Wexler (2006) showed that children have problems in the interpretation of raising constructions (10a) but not interpreting their unraised counterparts (10b).

- (10) a. John seems to Mary to be wearing a hat
b. It seems to Mary that John is wearing a hat

According to EARH children should have difficulties in both structures, being the verb ‘seem’ a defective verb. Further investigation led Fox & Grodzinsky (1998) to reformulate the Maturation Hypothesis in the ‘Theta-role Deficit Transmission Theory’. In the following section I will describe it more in detail.

2.3.2 The Theta-role Deficit Transmission Theory

The Maturation Hypothesis was challenged by Fox and Grodzinsky (1998) claiming that the cause of 4-year-old children’s problems with passive is not due to their immature grammar, which lacks A-movement. Fox & Grodzinsky (1998) proposed that children’s problems are caused by some kind of deficit in processing theta transmission. The first argument against the Maturation Hypothesis is that children perform successfully in constructions involving A-chains. The second argument is that children have problems with *by*-phrases. They investigated thirteen English-speaking children aged 3;6-5;5, testing their comprehension of both short and long passive sentences with both actional and non-actional verbs. They found that children were able to build A-chains but they had difficulties with the presence of the *by*-phrase. The theory they developed was called ‘Theta-role Transmission Theory’, according to which, children cannot transmit the role of the external argument to the *by*-phrase. Fox & Grodzinsky (1998) noticed that in sentences where the theta-role transmission is not involved, such as the sentences with non-actional verbs and without the *by*-phrase, children’s performance were better. However, later studies have demonstrated opposite results to these findings too. We will analyze them in the next sections.

2.3.3 Recent findings on the acquisition of passives

In this section I will provide some recent studies on the acquisition of passives by typically developing children and adults. Most of these studies do not support the ACDH by Borer and Wexler (1987).

Driva & Terzi (2008) tested the comprehension of *actional* and *non-actional* passives containing *by*-phrases. They used a modified version of the picture verification task developed by Terzi & Wexler (2002), in which children had to identify the picture that corresponded to the target sentence. They found that adjectival passives of actional verbs were comprehended better than the correspondent verbal passives. The *by*-phrase had no influence in the comprehension of passives by children. Therefore their findings do not support Fox & Grodzinsky's (1998) proposal. However Driva & Terzi (2008) seem to validate the ACDH by Borer & Wexler (1987).

Volpato, Verin and Cardinaletti (2014) tested typically developing monolingual Italian children (aged between 3;5 and 6;2) and 17 Italian adults in the production of passive sentences, using a picture description task. They found that young children can produce verbal and adjectival passives with both auxiliaries *essere* ('to be') and *venire* ('to come'). Their findings do not support the ACDH by Borer & Wexler (1987), since their results confirmed that children have adult-like knowledge of verbal passives. They also observed that some children do not produce passive sentences. The reason hypothesized by the authors is that the use of passives by children can depend on their language experience.

Manetti (2013) investigated the production of passive sentences in Italian preschool children before the age of five by using two picture-description tasks. She found that Italian children at the age of 3;6 can produce long verbal passives. Her findings also provided evidence against the ACDH by Borer & Wexler (1987). In addition to this, Manetti (2013) noticed that children produce adult-like passives, although many mistakes can occur in their elicited productions. In particular the most common mistake was the reversed order of the thematic roles. She also observed that the exposure to passive sentences with the auxiliary *venire* had a stronger influence on children's production than the exposure to sentences with auxiliary *essere*.

Volpato, Tagliaferro, Verin and Cardinaletti (2013) investigated the comprehension of verbal passives in Italian typically-developing children (aged between 3;4 and 6;2) and in 17 Italian adults by using a picture-matching task adapted from the Greek version of the task elaborated by Driva & Terzi (2008). They found that children are more accurate in the comprehension of passives with actional verbs in comparison with non-actional passives. They observed no difference between passives with auxiliary *venire* and *essere* and no difference between long and short passive sentences, in line with Driva & Terzi (2008) for Greek. Passives with auxiliary *venire* can only be eventive passives, suggesting that children can master true passive sentences since the earliest stages of language acquisition. These findings are in contrast with ACDH by Borer & Wexler (1987) showing that A-chains are available to children at an early age.

2.3.4 Acquisition of passives in subjects with atypical language development

In this section I will present some studies on the acquisition of passives by subjects with atypical language development, such as children with reading disability, dyslexic children and adults.

Stein et al. (1984) investigated the acquisition of passive sentences by English reading-disabled children. The authors tested the processing of passive sentences in reading-disabled subjects and typically developing controls aged between 7 and 9. The participants were divided into two groups of ten participants each (group A aged 7-8, group B aged 8-9) and matched to their control subjects. A comprehension task was administered to all of them. The Act Out Task used to test the passive voice, involved 12 active sentences, 12 reversible passive sentences and 12 non-reversible passives sentences. Results showed no significant difference in the comprehension of passive sentences between the reading-disabled children and their peer controls.

Reggiani (2010) tested the acquisition of passive voice in dyslexic children. The participants were 9-year-old Italian dyslexic children and their matched control group, and 5-year old Italian children presumably not affected by dyslexia. In their experiment, they used a Truth Value Judgement Task consisting of 8 items, testing the acquisition of two opposite features of passive

sentences: reversible/non-reversible passives; actional/non-actional passives. Results showed that dyslexic children aged between 9 and 10 still process actional passives better than non-actional passives. At that age they should already have an adult-like comprehension of passive sentences, as shown by the results of their controls.

Cardinaletti & Volpato (2011) investigated the comprehension of passive sentences in 10 Italian dyslexic students aged between 20 and 25. Data collected were compared with data from 17 adults (aged between 20 and 23) and 75 children (aged between 3;4 and 6;2), presented in Cardinaletti & Volpato (2013). The experiment consisted in a picture-matching task adapted from the Greek version of the task elaborated by Driva & Terzi (2008). The results showed no difference between dyslexic subjects and their peers in the comprehension of passive sentences. Non-actional verbs caused more difficulties to all participants as opposed to actional verbs. The group of typically developing children showed the lowest accuracy in the task (for instance children aged between 4;9 and 5;5 scored 94% of accuracy in actional verbs and 70% of accuracy in non-actional verbs). Results confirmed studies from different languages, such as Maratsos (1985), Driva & Terzi (2008). The problems in the comprehension of non-actional verbs are probably due to their difficult representation in the task.

2.4 Conclusions

The structure of a passive sentence involves the building of an A-chain and the derivation of a S structure which is different from the original D structure, where the external argument becomes a prepositional phrase and the internal argument is placed in subject position and receives nominative case. Literature across different languages shows different accounts for the acquisition of passive sentences. The Maturation Hypothesis (Borer & Wexler, 1987) proposed that A-chain building is acquired at a late age in language development, but several recent studies showed an opposite trend. The Theta-role Deficit Transmission Theory (Fox & Grodzinsky, 1998) points as cause of the children's difficulties with passive sentences a deficit in the assignment of the theta-role to the object. Even this theory has been criticized and discussed by

later studies. Recent studies in both typically-developing subjects and subjects with atypical language development (such as reading-disabled children and dyslexic children) underlined that the comprehension of passives is quite homogeneously well handled. Considering literature from early studies up to the most recent ones, it emerges that, despite the complexity of the process (ambiguity, change of verb morphology, A-chain building, auxiliary choice), the construction of passive structures is mastered by children even at early stages of language development. Passive sentence comprehension and production tests are involved in the present study in order to understand whether these syntactic structures are preserved or damaged in M. and to compare them with other structures.

3 The acquisition of relative clauses

3.1 Introduction

This section focuses on relative clauses. In section 3.2 I will provide the general features of the relative structure from a linguistic point of view and the properties of relative clauses in the Italian language. The state of literature about the acquisition of relatives is described in section 3.3. Finally, the content will be summed up in section 3.4.

3.2 Relative clauses and their properties in Italian

3.2.1 General features

Relative clauses are subordinate sentences. A nominal element of the main clause is shared by both the main and the dependent sentence and is called ‘head’ or ‘antecedent’ of the relative clause. The head in the relative clause has an independent thematic role, which could be different or equal with respect to the role it had in the main sentence.

Relative clauses can be distinguished in: restrictive/appositive, and subject relatives/object relatives. In the case of restrictive relatives, the relative clause is part of the sentence and it modifies the antecedent by selecting the number of the possible referents for it: the antecedent depends on the relative clause. In the case of appositive relatives, the relative clause can be optionally adjoined to the main sentence, providing further information about the object or the person taken into consideration (Cinque, 1988). Examples of restrictive relatives (11) and appositive relatives (12) are given below²:

(11) Gli studenti che non si sono iscritti all'appello non possono sostenere l'esame

² These examples are taken from Graffi & Scalise (2002)

‘The students who didn’t sign up cannot do the exam’

(12) Gianni, che non si è iscritto all’appello, non può sostenere l’esame

‘John, who didn’t sign up, cannot do the exam’

The distinction between subject relative clauses (SRs) and object relative clauses (ORs) lays in the different nature of the head, which can be both the subject or the object of the embedded clause. The head can delimit the range of possible referents and it can be extracted from the subject (SR) (13) or from the object position (OR) (14).

(13) *L’orso che abbraccia il bambino* (SR)

‘The bear that hugs the child’

(14) *L’orso che il bambino abbraccia* (OR)

‘The bear that the child hugs’

Both SRs and ORs modify a nominal element, by reducing the number of possible referents for it. The element they modify is the antecedent. Restrictive subject and object relative clauses belong to the same syntactic category labelled as CP (Cinque 1982, Vergnaud 1985, Rizzi 1997, Bianchi 1999, Zwart 2000) and they are embedded in a complex nominal expression (DP). Italian relative clauses are usually introduced by the complementizer *che*. The Italian *che* is used for both human and other animated/not-animated referents, while the English equivalent of *che* can be either ‘that’ either ‘who’, according to the nature of the referent.

3.2.2 Syntactic movement

Italian relative clauses contain a gap in the subordinate clause, which marks the original position of the element that has been relativized. Early studies on relative clauses hypothesize that these

sentences are derived from a *wh*- movement of a relative operator (Cinque 1978, 1982). The operator is supposed to move from the embedded position in which it is originated, to a higher position (SPEC/CP) where it can be coindexed with the relative head. According to these accounts, a subject relative is derived in (15) and an object relative is derived in (16)

(15) a. L'orso che <l'orso> abbraccia il bambino (SRC)

The bear that <the bear> hugs the child

b. [DP L' [NP orso_i [CP OP_i che [IP t_i abbraccia il bambino]]]].

[DP The [NP bear_i [CP OP_i that [IP t_i hugs the child]]]]

(16) a. L'orso che il bambino abbraccia <l'orso> (ORC)

'The bear that the child hugs <the bear>'

b. [DP L' [NP orso_i [CP OP_i che [IP il bambino abbraccia t_i]]]]

[DP The [NP bear_i [CP OP_i that [IP the child hugs t_i]]]]

Much recent studies claimed that what moves in SRs and ORs is the relative head and not the operator (Vergnaud, 1985; Kayne, 1994; Bianchi, 1999). According to this theory, the relative head, which originates in the relative clause, moves to the position of SpecCP. The derivation of a SR (17) and of an OR (18) are provided in the following examples:

(17) [DP L' [CP [NP orso_i] che [IP [NP t_i] abbraccia il bambino]]]

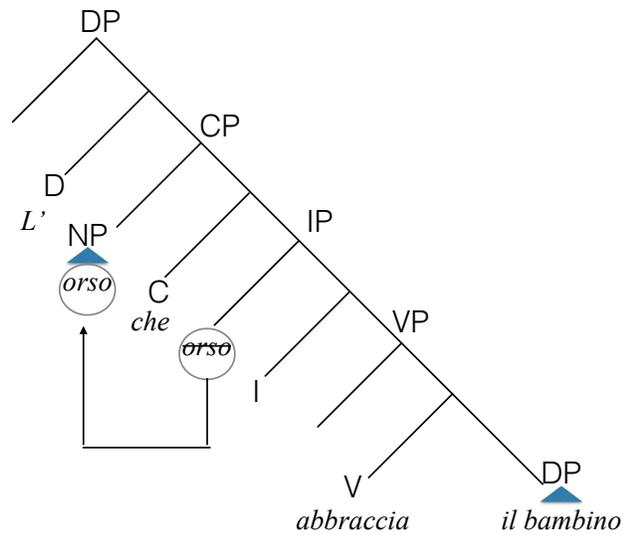
[DP The [CP [NP bear_i] that [IP [NP t_i] hugs the child]]]

(18) [DP L' [CP orso_i] che [IP il bambino abbraccia [NP t_i]]]]

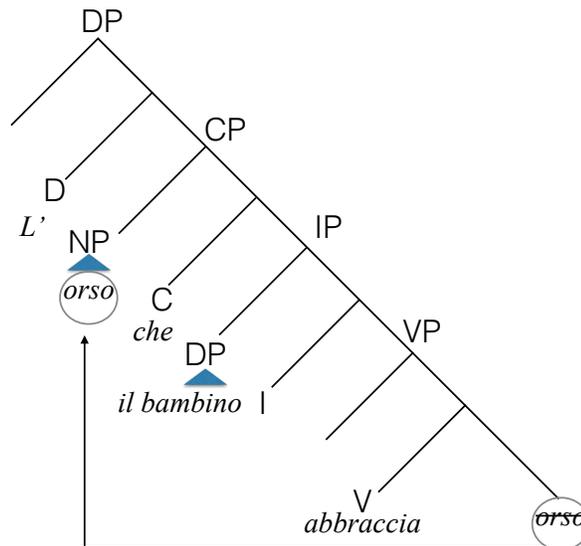
[DP The [CP bear_i] that [IP the child hugs [NP t_i]]]]

Following these proposals, the movement involved is a *wh*-movement, also called A'-movement. The moved element leaves a trace (t) in the position from which it moves (Chomsky, 1995). The syntactic representations of the derived SR and OR are provided respectively in (19) and (20):

(19)



(20)



3.2.3 Ambiguity

Another important issue to be considered in Italian relative clauses is the effect of the *pro-drop* parameter. Stating that Italian is a *pro-drop* language, it follows that the subject of a finite sentence can be omitted or placed either in preverbal (21a) either in post-verbal position (21b).

(21)

- a. Sara ha chiamato
‘Sara has called’
- b. Ha chiamato Sara
has called Sara
‘Sara has called’

As the example in (12) shows:

(22)

- a. Il pesce che ha mangiato Sara
the fish that has eaten Sara. SUBJECT
‘The fish that Sara has eaten’

When the relative clause contains a reversible verb, the sentence may sound ambiguous and it can be interpreted both as a SR and a OR. The example in (13) shows an ambiguous sentence:

(23)

- La bambina che abbraccia l’orso
‘The girl that hugs the bear’ (or ‘The girl that the bear hugs’)

The ambiguity is caused by the possibility of both *la bambina* (‘the girl’) and *l’orso* (‘the bear’) to be the subject of the embedded verb *abbraccia* (‘hugs’). In the case of a subject interpretation, the gap is in preverbal embedded subject position (24) and moves like in (19); while in the case

of an object interpretation the gap is in the post-verbal embedded object position (25) and moves like in (20):

(24) La bambina che <la bambina> abbraccia l'orso (SR)
'The girl that <the girl> hugs the bear'

(25) La bambina che abbraccia l'orso <la bambina> (OR)
'The girl that hugs the bear <the girl>'

Ambiguity occurs when the two involved DPs show matched number features. In order to disambiguate the sentence, number features should be differentiated (morphological strategy). An alternative is to place the subject of the embedded clause in the preverbal position, as it obligatorily happens for object relatives in *non-pro-drop* languages (syntactic strategy). An example of syntactic strategy is shown in (26):

(26) La bambina [che l'orso abbraccia <la bambina>]
'The girl [that the bear hugs <the girl>]'

3.3 The acquisition of relative clauses

The acquisition of relative clauses has always stirred the interest of linguists and language acquisition researchers. Recent growing cross-linguistic literature on the argument has contributed to understand the developmental stages governing their acquisition. Studies on relative clauses investigated the structure both from a linguistic and from a psycholinguistic point of view. One of the most considerable results is the marked asymmetry observed at all ages in comprehension and production of SRs and ORs. Object relatives seem to be a major challenge even for adults, who have been reported to avoid using them, choosing some alternative structures instead. Following the Relativized Minimality principle (Rizzi, 2009), the asymmetry

originates because of the shorter movement of the relative head required in SRs than that required in ORs. Specifically, subject relatives need a local movement, while object relatives need a long movement, involving a more costly computation (Guasti et al., 2012). Other studies showed another discrepancy which cannot be explained by Relativized Minimality principle. Object relatives with post-verbal subject are more problematic than object relatives with preverbal subject. Volpato & Adani (2009) claimed that this asymmetry can be caused by the fragile subject-verb agreement contained in object relatives with post-verbal subject, while in object relatives with preverbal subjects, agreement is more robust.

Diessel (2008) argued that the asymmetry between SRs and ORs can also be caused by the different types of situations these relatives are involved in. Usually SRs are used to describe or characterize a referent, which is often introduced for the first time in the main sentence. ORs are primarily used to identify or define a referent, by giving information about its relationship to one of the speech participants or to another referent (usually well-known). He claimed that the acquisition of relative clauses is determined by numerous factors and that the earliest relative clauses that English-speaking children learn share properties with simple sentences (containing a single sentence, involving grammatical relations in the same sequence of a simple sentence, and the same associations between syntactic and semantic roles). The relative clause construction seems to produce intricate grammatical patterns which share individual properties with other grammatical patterns in the network of constructions gradually emerging in the stages of language development. In the following section, I will provide information about the production of relative clauses in the process of language acquisition.

3.3.1 Production

Children's production of relative clauses seem to start earlier than the comprehension. They begin to produce relative clauses at the age of 3 but they start comprehending them at around 5 (Labelle, 1990; Guasti, 2007). In the first structures they produce, the relativized element is always the subject of the dependent clause and the relative clause which is obtained is never a

restrictive one. Therefore early relative productions can be also called ‘pseudo-relatives’ (Guasti, 2007). Real relatives come later: first SR, followed by OR. Children’s production differs from adults’ production. The characteristics of children’s relative clauses were investigated by Guasti & Cardinaletti (2003), showing that Italian children aged between 5 and 10 use resumptive pronouns (27)³ and the generalized use of the complementizer *che* instead of other relative pronouns like *a cui* (‘to which’/‘to whom’), *di cui* (‘of which’/‘of whom’).

(27) Tocca la zebra che il bambino la lava (5;3)
‘Touch the zebra that the child is washing her’

Labelle (1990) claimed that children’s relative clauses are not built using the movement of an operator. For this reason, children do not use relative pronouns. When they produce relatives with resumptive pronouns, the relative head is bound to the resumptive pronoun, remaining inside the relative clause; when they produce relatives lacking resumptive pronouns, then the relative clause contains a null resumptive pronoun. Hence, Labelle (1990) proposed a structural difference between children’s and adults’ relatives.

Guasti & Cardinaletti (2003) proposed that the difference is lexical rather than structural. They claimed that children produce adult-like relative clauses, using the null operator because they haven’t acquired the lexical forms of the pronouns yet. Much research on children’s spontaneous speech and elicited production experiments confirmed the subject/object asymmetry found also in comprehension: children performed better on subject than on object relative clauses. Children’s production of relative clauses has been the topic of many studies across languages and in different populations, such as typically developing, SLI, and hearing impaired children. The present study includes a relative clause comprehension task, hence the following sections focus on the comprehension of relative clauses.

³ This example is taken from Guasti (2007:191).

3.3.2 Comprehension

In this section I will provide some information about the comprehension of relative clauses in the process of acquisition of language.

Adani et al. (2010) showed that 4-year-old children find it difficult to comprehend all relative structures. Starting from the age of 5, they begin to comprehend some relative structures. The head of the relative can be either the subject or the object in the main clause and in the relative subordinate clause. In (28) the relative head is the subject of both the main clause and of the relative clause; in (29) the relative head is the subject of the main clause but the object of the relative clause; in (30) the relative head is the object of both the main clause and the relative clause; in (31) the relative head is the object of the main clause but the subject in the relative clause⁴:

(28) Il gatto [che sta lavando la capra] è salito sullo sgabello
‘The cat [that is washing the goat] climbed on the stool’

(29) Il leone [che i coccodrilli stanno toccando] è seduto per terra
‘The lion [that crocodiles are touching] sits on the ground’

(30) Il pasticcere guarda il leone [che i coccodrilli stanno toccando]
‘The confectioner sees the lion [that the crocs are touching]’

(31) Il pasticcere guarda il gatto [che sta lavando la capra]
‘The confectioner sees the cat [that is washing the goat]’

The results from the research by Adani et al. (2010) showed that the relative head remains the most problematic element for children in the process of acquisition. Another element which can cause problems to children in comprehension of the relative structure is the position of the

⁴ Example from Guasti (2007:191).

subordinate clause. Relative clauses can occupy different positions with respect to the main clause: they can be at the right end of the main clause (32) or inside the main clause (33). Center embedded relative clauses seem to be more complex than right-branching clauses (Guasti, 2007).

(32) Il pasticcere guarda il gatto [che sta lavando la capra]
'The confectioner sees the cat [that is washing the goat]'

(33) Il gatto [che sta lavando la capra] è salito sullo sgabello
'The cat [that is washing the goat] climbed on the stool'

Children's errors in the comprehension of relative structures have been investigated and explained in two ways: as the lack of adults' competence (Tavakolian, 1981) or pragmatic factors (Goodluck & Tavakolian, 1982; Hamburger & Crain, 1982). Following the former reason, it was claimed that children are unable to use the recursive rules in building embedded clauses. Following the second proposal, children seem to be able to use recursive rules and their errors in comprehending relative clauses are due to pragmatic disturbing factors (Guasti, 2002).

An interesting issue in relative clause acquisition is the discrepancy between SRs and ORs. The asymmetry is found in children, adolescents and, in a lower percentage, in adults too (Friedmann & Novogrodsky, 2004; Adani, 2011). Both SRs and ORs require interpretation of an element which is moved from its original position. The difference lays in the place from which they move. In SRs, the element which moves is the subject of the embedded clause, so that it moves out from the embedded subject position. In ORs, the element which moves is the object of the embedded clause, so that it moves out from the embedded object position (Friedmann, Belletti, Rizzi, 2009). Many studies have investigated the problems in the comprehension of relative clauses involved in the process of acquisition. Different kinds of population have been studied, such as typically developing subjects, SLI subjects and hearing impaired subjects. In the following section I will provide a description of studies on typically developing subjects.

3.3.2.1 Studies on typically developing subjects

In this section some studies which investigated comprehension of relative clauses in typically developing subjects will be presented.

Friedmann & Novogrodsky (2004) investigated the comprehension of SRs and ORs in a group of Hebrew-speaking children (mean age 4;7). Subject relatives were interpreted correctly, while object relatives were less accurate.

Arosio et al. (2005) studied three conditions in children aged from 5 to 11 and from 3 to 7 respectively: subject relative clauses (SR), object relative clauses with a preverbal embedded subject (OR) and object relative clauses with a post-verbal embedded subject (ORp), as in (34), (35) and (36), respectively.

(34) Fammi vedere lo gnomo che <lo gnomo> dipinge i bambini (SR)
'Show me the dwarf that <the dwarf> is painting the children'

(35) Fammi vedere lo gnomo che i bambini dipingono <lo gnomo> (OR)
'Show me the dwarf that the children are painting <the dwarf>'

(36) Fammi vedere lo gnomo che dipingono i bambini <lo gnomo> (ORp)
'Show me the dwarf that is painting the children <the dwarf>'

They found that the most problematic are ORps, followed by ORs which are less problematic than ORps but more difficult than SRs. If 4-year-old children can comprehend subject relatives and object relatives with a preverbal embedded subject, only at the age of 11 they are able to comprehend object relatives with a post-verbal subject.

These studies were based on the assumption that what makes it more difficult for children to comprehend ORs than SRs is the movement. Object relatives require a longer movement than that required by subject relatives.

Further studies proposed that the difficulties are not caused by the movement but by an interfering nominal element in ORs. The nominal element appears between the relative head and its first merge position, making the assignment of the thematic role to the head more problematic (Gibson, 1998; Gordon et al., 2001; Arnon, 2005) (Saccon, 2015).

More recent studies argued that the lexical restriction is the reason for children's difficulties with object relatives (Friedmann et al., 2009). Their proposal stems from the Relativized Minimality principle (Rizzi, 2009). The authors administered a test to 22 typically developing Hebrew-speaking children aged between 3;7 and 5;0 in order to investigate the comprehension of SRs and ORs. They found that children have difficulties with ORs when the intervener presents a feature subset of movement element (lexical restriction). When the intervener and the moved element do not share any feature, children's comprehension definitely improves.

3.3.2.2 Studies on SLI and hearing impaired subjects

In this section I will provide some studies which investigated the comprehension of relative clauses in subjects with SLI and hearing impairment.

Friedmann & Novogrodsky (2007) administered a relative clause comprehension test to 16 Hebrew-speaking children with SLI and to 50 typically developing peers. The results showed that ORs are more difficult than simple sentences and that children with SLI are generally less accurate than their controls. From a qualitative analysis of the results, the authors hypothesized that an incorrect assignment of the thematic roles is the main reason for SLI-children's difficulties with ORs.

Adani et al. (2010) investigated the comprehension of relative clauses in children with SLI aged between 9;5 and 16. The control group consisted of typically developing children aged between 6 and 8;11. Their study aimed at testing SRs and ORs in matched and mismatched conditions of number features. They found that children with SLI comprehend better SRs than ORs. With these findings the authors confirmed the Relativized Minimality principle but they specified also that when the nominal elements of an OR contain different number features, comprehension is easier.

Volpato & Adani (2009) argued that Relativized Minimality principle can be used to explain the asymmetry between SRs and ORs also in children with cochlear implants, but it fails in explaining the discrepancy between ORs and ORps. They tested 8 deaf children with cochlear implant (CI) and three control groups of typically developing children, finding that children with CI performed less accurately than their peers. However, all subjects performed better in SRs than in ORs and their comprehension of ORs was better than ORps. Data collected by Volpato & Adani (2009) show that ORps are more problematic than ORs. The authors proposed that the asymmetry between these two sentence types is due to agreement phenomena. In ORs, the subject-verb agreement is checked twice: under AGREE (Chomsky, 1995, 2000, 2001) and in the Spec-Head configuration. The agreement in ORs is stronger than in ORps, where subject-verb agreement is established only once, under AGREE. Because of the fragility of agreement and to the processing overload necessary to interpret this construction, these sentences are mainly interpreted as subject relative clauses. The same results were replicated by Volpato (2010, 2012).

3.4 Conclusions

Relative clauses are extremely complex structures which have been investigated in many linguistic studies. These studies underline two asymmetries: between subject relatives and object relatives, and between object relatives with preverbal subjects and object relatives with post-verbal subjects. Object relatives seem to be acquired later because of the longer movement involved in their construction. Object relatives with post-verbal subject seem to involve a weaker subject-verb agreement with respect to the stronger one involved in object relatives with preverbal subject. In general, given the complexity of A'-chain creation process and the ambiguity caused by the pro-drop parameter in Italian, relative clauses seem to be one of the most difficult structures in children acquisition, such that even adults have been reported to avoid object relative constructions by substituting them with other alternatives. A relative clauses comprehension test is involved in the present study in order to understand whether these syntactic structures are preserved or damaged in M. and to compare them with other structures.

4 The experiment: participants, procedure, and materials

4.1 Introduction

In this chapter a detailed description of all the tasks administered to M. will be provided. The main participant and the control group are introduced in section 4.2. In section 4.3 I provide the general procedure applied for all the tests administered in the present study. In section 4.4 the standardized tests are listed and described both in the content and in the specific recommendations they required (Peabody PPVT-R, TCGB, Prove di Valutazione Grammaticale dell'Italiano Scritto). Section 4.5 similarly deals with the non-standardized tests (Passive sentence comprehension and production tasks and relative clauses comprehension task), providing a description of the materials and the particular recommendations.

In order to detect the language components or the linguistic difficulties of children and adults, several diagnostic tools have been developed. Some of them are standardized tests and some others are non-standardized tests. Both kinds of test have advantages and disadvantages. Some of the advantages of the standardized tests used in this study are:

- they are quick tools to check the subject's competence in his/her mother tongue language;
- they have been already administered to huge experimental and control groups so that normative data is available to make comparisons;

The disadvantages of the standardized tests used in the present study are:

- they are mainly addressed to young subjects;
- they do not allow to focus on a specific linguistic structure making it harder to investigate in detail which linguistic properties are compromised.

4.2 The participants

The case study is centered on M., male student aged 14;7, grown up in the North-East of Italy. He attended schools in his neighbor area, not far from Venice. The languages spoken at home are Italian and dialect. Further information on M. is provided in section 1.5.

The child's performance is compared with that of two control subjects, matched on chronological age⁵ and language abilities. The controls are typically developing subjects: S., a male student, and G., a female student aged 5;6 and 17;6 respectively. They both live in the North of Italy, in the same area as M., and they have been attending a school in the same district. Italian and Venetan dialect are the languages spoken in their families.

4.3 Procedure

All tests are different and they have their own specific recommendations. They also have some common general ones though. In all the following tests I followed the general procedure described in the list below:

- I administered the tests in a quiet place in a comfortable environment, possibly silent, peaceful and good for the participants' concentration;
- the participant was sitting in a comfortable position with enough light and good climate;
- I tried to create a good atmosphere, making the subject feel comfortable;
- I briefly introduced the task;
- when required, I let the subject train on some pictures or sentences in order to familiarize with the task;

⁵ G. is 2 years older than M. and S., but the difference in age is not considered very influential in the study. Subjects are matched on language skills and sometimes they performed on equal level during tests.

- in most of the cases I administered the test all in one time, but when it was particularly long, the test was divided into two parts (TCGB, Prove di Valutazione Grammaticale dell'Italiano Scritto);
- I did not interrupt neither give suggestions to the subject;
- when I had to administer the same test to more than one subject, I tried to repeat the procedure in the most exact way I could.

Except for Prove di Valutazione Grammaticale dell'Italiano Scritto, none of the standardized tests reported in this study required writing tasks. None of the tests had to be administered within specific time constraints.

In the case of M. the tasks were all administered during Summer 2014 at my home, a place he already knew. There was only the two of us and we always had some chat before the beginning and after the end of the test. The aim of this was to create and then, to keep, a good relationship between me, as examiner, and the subject of analysis.

In the case of S. and G., the tasks were administered at my home or at theirs, in different periods of 2014. With them too I always had a brief conversation before starting the task and after having finished it.

4.4 Peabody PPVT-R

The Peabody Picture Vocabulary Test - Revised is a test of receptive vocabulary for standard Italian. The original American version was developed in 1959 by Lloyd & Leota M. Dunn, two education specialists. The test was created for clinical and scholastic use. It can quickly provide an estimate of the children's verbal skills and scholastic aptitude. It was administered to 2400 subjects aged from 3 to 12 years and living in different parts of Italy. The PPVT-R materials consist of 175 experimental trials. In each trial there are 4 numbered pictures but only one corresponds to the target item. The items include verbs (n°55 *tuffarsi* 'to dive'; n°81 *spiegare* 'to explain') nouns (°37 *nido* 'nest'; n°97 *isola* 'island'), and adjectives (n°54 *umano* 'human'; n°92

trasparente 'transparent') which are ordered by increasing lexical difficulty. Before starting, there was a short training session which consisted in practicing the same task required in the real test.

During the test, I uttered a word describing one of the pictures and the subject had to point or say the number of the correct picture. I reported the answers in the response sheet.

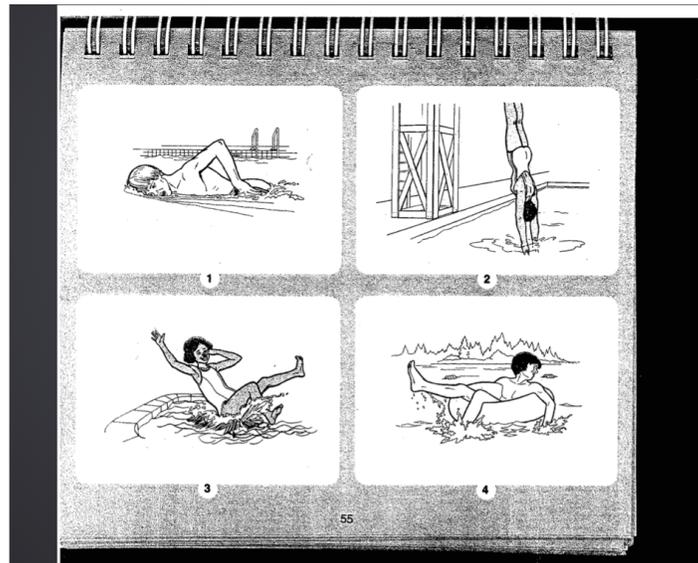


Figure 3. Experimental trial n°55 - *tuffarsi* 'to dive'

The first item, or starting point, was determined on the basis of the student's chronological age. The starting points for each age group could be found in the PPVT manual (Dunn & Dunn, 1981). The oldest subject ever tested was 12 years old and the starting point suited to that age was 90. Therefore I decided to start from that same point with all my older subjects. Testing began with the starting point and proceeded until the subject made an incorrect response. If the subject had provided 8 or more correct responses before the first error, a 'basal' was established. The basal is defined at the last item in the highest series of 8 consecutive answers. Once the basal was established, testing proceeded until he/she made 6 errors in 8 consecutive items. A 'ceiling'

was established when the subject incorrectly identified 6 out of 8 consecutive items. The ceiling is defined as the last item in the lowest series of 8 consecutive items with 6 incorrect responses. If more than one ceiling was identified, the lowest ceiling was used to compute the raw score. The assessment was completed when both the basal and the ceiling had been found. The ceiling can be set at 175 if the subject never makes 6 errors in 8 consecutive items. The 'raw score' is the number of correct answers below the ceiling. It was calculated by subtracting the number of errors between the highest basal and the lowest ceiling. Finally I looked up in the normative data for the standard equivalent score and the corresponding age selected. The test was administered in July 2014 to M., in September 2014 to G. and in November 2014 to S.

4.4.1 Limits of the Italian version of PPVT-R

Whereas the American version has been extended to adult age groups (up to 90 years old), the Italian version is only suitable for children from 3;9 to 11;6 years old. Therefore in the case of 14-year-old and 16-year-old students, I expected a rate of mistakes lower than that reported for 12-year-old ones.

4.5 Test di comprensione grammaticale per bambini (TCGB)

The TCGB was originally developed by Fraser, Bellugi & Brown (1963). Its first Italian version was created by Parisi & Pizzamiglio (1970), Laicardi et al. (1983, 1984) and finally in the most recent version by Chilosi & Cipriani (1995). This test aims at evaluating the general sentence comprehension of children. TCGB is an efficient tool for both clinical and scholastic use, helping to build a personal didactic intervention plan.

The material provided by the test includes 76 experimental trials, each of them containing 4 numbered pictures. For each trial, only one of the pictures corresponds to the target item. An example of one experimental trial is provided in Figure 4.

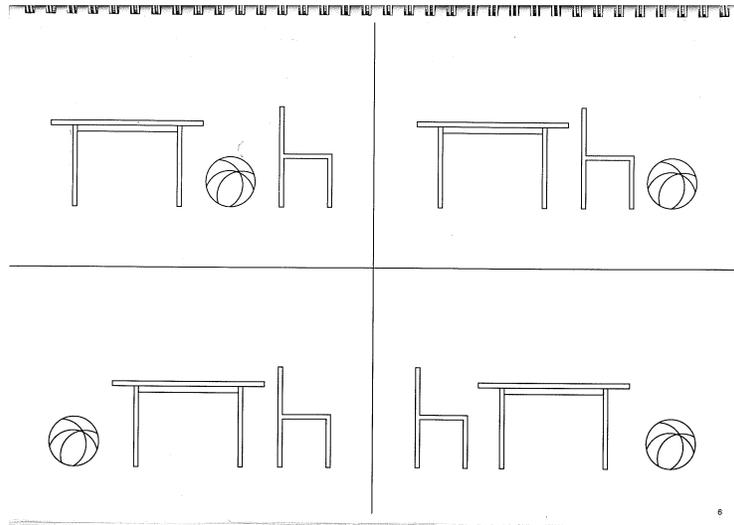


Figure 4. Experimental trial n°6 *La palla è tra il tavolo e la sedia* ‘The ball is between the table and the chair’ (Locative sentence)

The test investigates 8 linguistic structures: locative sentences, inflectional morphology of nominal and verbal elements, active affirmative sentences, active negative sentences, passive affirmative sentences, passive negative sentences, relative clauses, and dative sentences. I will now provide two examples per each of the structures listed above. All the experimental items of the TCGB are reported in the Appendix A, distinguished into the different categories.

1. Locative sentences (14 items);

n°6 *La palla è tra il tavolo e la sedia* ‘The ball is between the table and the chair’

n°14 *L’uccellino vola dalla casa al nido* ‘The little bird flies from the house to the nest’

2. Inflectional morphology of both nominal and verbal items (16 items);

n°18 Cane 'Dog'

n°23 Vola 'It flies'

3. Active affirmative sentences (10 items);

n°17 La mamma lava 'Mum is washing'

n°29 Il gatto rincorre il cane 'The cat is chasing the dog'

4. Active negative sentences (6 items);

n°26 Il bambino non dorme 'The boy is not sleeping'

n°48 Il bambino non mangia la minestra 'The boy is not eating the soup'

5. Passive affirmative sentences (10 items);

n°47 La mela è mangiata dalla bambina 'The apple is being eaten by the girl'

n°52 La bambina è vestita dalla mamma 'The girl is being dressed up by mum'

6. Passive negative sentences (6 items);

n°66 La mela non è presa dalla bambina 'The apple is not taken by the girl'

n°76 Il cane non è rincorso dal gatto 'The dog is not chased by the cat'

7. Relative clauses (8 items);

n°39 Il bambino che è sul tavolo mangia la marmellata 'The boy who is on the table is eating the jam'

n°41 Il gatto salta sul topo che è sulla sedia 'The cat jumps on the mouse that is on the chair'

8. Dative sentences (6 items).

n°51 Il bambino porta il gatto al topo 'The boy is bringing the cat to the mouse'

n°74 Il cane porta il maiale alla pecora 'The dog is bringing the pig to the sheep'

As I read an item of the list, the subject had to point to the correct picture and I reported his answers in the response sheet. If the first answer was wrong, I read the sentence again, reporting the mistake in the response sheet. If the answer was wrong for the second time, then I shifted to the next item. Each incorrect response given at first answer was scored 0,5 points and when the second response was wrong again, it was scored 1 point. All the recorded answers were divided into categories according to the different sentences typologies and compared with the normative data provided by the test instructions handbook.

The test was administered to M. in June 2014, to S. in November 2014, and to G. in September 2014.

4.5.1 Limits of TCGB

TCGB normative data refer only to the age range from 3;6 to 8 years old. In the case of 14-year-old and 16-year-old subjects I expected a rate of mistakes lower than that reported for 8-year-old subjects.

4.6 Prove di Valutazione Grammaticale dell'Italiano Scritto

This test was developed at the Institute of Psychology C.N.R. (Rome) in 1996 by Caselli, Volterra, D'Amico, Capirci, Devescovi. and Taeschner. The test assessing written Italian (PVGIS) is a test for the evaluation of the linguistic competence in Italian in both production and comprehension. It takes into account three main linguistic structures: articles, pronouns and prepositions.

The test includes:

- A. section dedicated to articles (1 production task);
- B. section dedicated to pronouns (3 production tasks);
- C. section dedicated to prepositions (4 production tasks and 1 comprehension task).

I will now describe in detail the sections on articles, pronouns and prepositions, providing examples for each type of exercise.

Section dedicated to articles

The participant has to fill in a list of 24 items (12 singular and their correspondent 12 plurals). Each of them can be ascribed to a different group:

- gender (masculine and feminine);

n°23 IL lupo ‘THE (masc. sing.) wolf’

n°5 LA casa ‘THE (fem. sing.) house’

- type of article;

n°1 IL gelato ‘THE (masc. sing. before consonant+vowel nouns) ice-cream’

n°18 LO scarpone ‘THE (masc. sing. before consonant+consonant nouns) boot’

- ending letter of the noun.

n°9 IL dolce ‘THE (masc. sing. ending -e) cake’

n°17 LA neve ‘THE (fem. sing. ending -e) snow’

The task takes into account also the number of syllables of the items and their initial consonants.

Section dedicated to pronouns

Pronouns task 1

The items included in this task are 16. Each item consists of a sentence in which one nominal element is underlined. Each item is shown for a second time but the nominal underlined element

is missing. The participant has to fill in the space with the correct clitic pronoun. The task investigates the use of clitic pronouns as direct objects (*lo* masc. sing.; *la* fem. sing.; *li* masc. plur.; *le* fem. plur.), as the following examples show:

n°1

I topi rubano il dolce ‘The mice are stealing the cake’

I topi LO rubano ‘The mice are stealing IT (masc. sing.)’

n°3

Il papà costruisce le torri con i bambini ‘Dad is building the towers with children’

Il papà LE costruisce con i bambini ‘Dad is building THEM (fem. plur.) with children’

Pronouns task 2

The items included in this task are 8 sentences. In each sentence all the 3 arguments allowed by the verb argument structure are expressed. One of them is underlined and must be replaced. Therefore each item is shown for a second time but with the missing argument. The subject has to fill in the space with the correct clitic pronoun. The task investigates the use of clitic pronouns in both direct objects and indirect objects (*lo* masc. sing. direct object; *gli* masc. sing./plur. indirect object), as the following examples show:

n°5

Le nonne offrono il gelato ai bambini. ‘Grandmas offer the ice-cream to the children’

Le nonne LO offrono ai bambini ‘Grandmas offer IT (masc. sing. direct object) to the children’

n°8

Le mamme mandano i dolci al maestro ‘Mums send the cakes to the teacher’

Le mamme GLI mandano i dolci ‘Mums send HIM (masc. sing. indirect object) the cakes’

Pronouns task 3

The items included in this task are 12 sentences. In each sentence a nominal element (masculine singular) is underlined and must be replaced. There are no clues to re-build the sentences with the pronouns instead of the nouns. The participant has to create the new sentence on his/her own. The task investigates the use of clitic pronouns (exclusively masc. sing.) in the correct position.

n°3

La nonna cerca di acchiappare il gatto ‘Grandma tries to catch the cat’

La nonna cerca di acchiapparLO ‘Grandma tries to catch IT’

n°9

La signora va a ritirare il pacco ‘The woman goes and take the packet’

La signora va a ritirarLO ‘The woman goes and take IT’

Section dedicated to prepositions

The prepositions that have been taken into consideration in this tasks are: *di* (‘of’), *da* (‘from’/‘since’/‘by’), *a* (‘to’/‘at’), *sopra/su* (‘on’/‘over’), *dentro/in* (‘in’/‘inside’). The section consists of 5 tasks.

Preposition task 1

This task includes 12 items. Each items consists of a sentence with a missing preposition which must be filled in. The task investigates the use of 4 prepositions (*di* -‘of’/‘to’; *da* - ‘from’/‘since’/‘by’; *a* - ‘to’/‘at’) with different functions and meanings.

n°4

Mario ha regalato un suo disegno A Maria ‘Mario gave TO Maria a drawing made by him as a present’

n°12

Il gatto è saltato giù DA un muro ‘The cat jumped off FROM a wall’

Preposition task 2

This task includes 12 items. Each of them is an incomplete sentence which must be completed choosing from a list of 3 possibilities. The aim is to investigate the use of the prepositions *di* - ‘of’/‘to’, *da* - ‘from’/‘since’/‘by’ and *a* - ‘to’/‘at’ with different functions.

n°2

Quell’uccellino è uscito ...

- di una gabbia
- DA una gabbia
- a una gabbia

‘That little bird escaped...’

- ‘of a cage’
- ‘FROM a cage’
- ‘to a cage’

n°7

‘Il ladro è stato arrestato...’

- ‘DA un poliziotto’
- ‘a un poliziotto’
- ‘di un poliziotto’

‘The thief was arrested...’

- ‘BY a policeman’
- ‘to a policeman’
- ‘of a policeman’

Preposition task 3

This task includes 12 items. Each of them is an incomplete complex sentence which must be completed choosing from a list of 4 possibilities. The aim is to investigate the use of the prepositions *di* - ‘of’/‘to’, *da* - ‘from’/‘since’/‘by’ and *a* - ‘to’/‘at’ with syntactical function.

n°4 Il gatto ha cercato...

- prendere il topo
- DI prendere il topo (CORRECT)
- da prendere il topo
- a prendere il topo

‘The cat tried...’

- ‘catch the mouse’
- ‘TO catch the mouse’ (CORRECT)
- ‘from catch the mouse’
- ‘at catch the mouse’

n°10

La mamma ha fatto...

- mangiare i bambini (CORRECT)
- di mangiare i bambini
- da mangiare i bambini

- a mangiare i bambini

‘Mum made...’

- ‘children eat’ (CORRECT)
- ‘children of eat’
- ‘children from eat’
- ‘children at eat’

Preposition task 4

This task includes 16 experimental trials, each of them containing 4 pictures and a sentence. The sentence describes only one of the pictures which had to be pointed by the subject. This task investigates the comprehension of prepositions *da* (‘from’/‘since’/‘by’), *sopra/su* (‘on’/‘over’), *dentro/in* (‘in’/‘inside’).

An example of an item included in the preposition task 4 is provided in Figure 3.

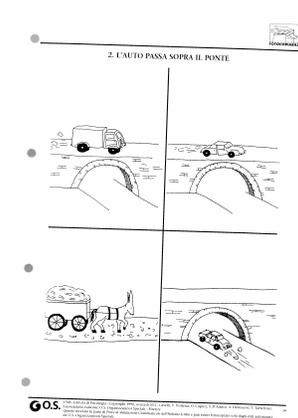


Figure 5. PVGIS - Preposition task 4 - Experimental trial n°2 : *L'auto passa sopra il ponte* ‘The car runs on the bridge’

Preposition task 5

This task includes 16 experimental trials, each of them containing 2 pictures. An arrow indicates only one of the two pictures, eliciting a sentence with a preposition. The subject has to write the sentence describing the selected picture. The task investigates the production of the prepositions *da* ('from'/'since'/'by'), *sopra/su* ('on'/'over'), *dentro/in* ('in'/'inside').

An example of an item included in the preposition task 5 is provided in Figure 4.

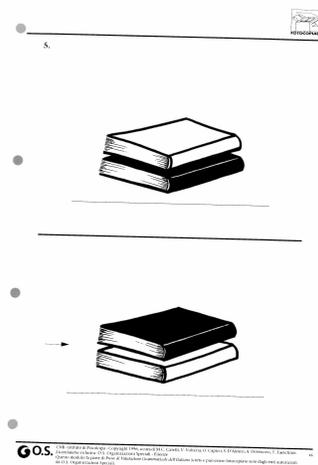


Figure 6. PVGIS - Preposition task 5 - Experimental trial n°5

Differently from the other tests administered in the present study, the test for the grammatical assessment of written Italian required that the subject had some basic reading and writing experience, since all tasks are presented in a written form. I video-recorded the administration of the test in order to investigate which parts took longer time and which hesitations caused more problems. Before the starting of each task, the test provided a written training session in which the general features of the tasks were explained. The test was split into two parts with a break of 10 minutes because of the long time it needed to be completed.

The test was administered to M. in July 2014.

4.6.1 Limits of Prove di Valutazione Grammaticale dell'Italiano Scritto

This test aims at evaluating the competence in Italian of children and adolescents. Since the test requires the participants to be able to read and write, the developers of the test suggest to administer it to children from the second year of primary school (approximately 7-year-old children) to the third year of secondary school (approximately 13-year-old adolescents). In the present study I administered the test to M., who is 14 years old. The age gap between 13 years and 14 years is not so relevant. However, I expected a rate of mistakes lower than that reported for 13-year-old subjects.

4.7 Non-standardized materials

The advantages of the non-standardized tests used in the present study are the following:

- they make it possible to focus the attention on one particular linguistic structure, helping in detecting how our brain works in specific contexts (as for instance SLI or dyslexia);
- they can be administered to a wide range of age.

In the following section, I will provide a more detailed description of the non-standardized tests administered to M. (the sentence repetition task, the passive sentence comprehension task, the passive sentence production task and the relative clause comprehension task). I will also provide information about the procedures I followed.

4.8 The sentence repetition task

The repetition task is used to investigate the syntactic ability in different structures. It was used by Fraser et al. (1963), Slobin & Welsh (1973), Radford (1990) in some experimental studies on child language development; it was also used by Friedmann & Szertman (2011) to examine how deaf and hard-of-hearing children repeat Wh-questions and to investigate the source of relative clauses difficulties for these populations. The repetition of a sentence in one's mother tongue is not a passive repetition of the item. This task involves comprehension and production of syntactic structures. Therefore any difficulties in repeating the items can be considered a manifestation of comprehension and production difficulties (Friedmann & Novogrodsky, 2007; Friedmann & Grodzinsky, 1997; Friedmann & Lavi, 2006; Lust, Flynn, & Foley, 1998). In particular, if the sentences included in the task are all very similar in length and words, differing only in the syntactic features relevant to the investigation, the mistakes in repeating one of the structures might indicate a particular difficulty with a specific structure. If the structural error is persistent, and control sentences are perfectly repeated instead, it can be hypothesized that the participant has a deficit in that particular structure or that he/she cannot master it yet.

The test included 20 sentences of different length and syntactic difficulty: SVO simple active structures, relative clauses, passive sentences, coordinated sentences, and left-dislocated sentences. In the following lines I will provide some examples of the sentences listed above. The complete list of items can be found in the Appendix A.

- SVO active sentences

n°10 La mamma bacia la bambina 'Mum kisses the girl'

- Relative clauses

n°15 L'auto che le moto inseguono corre molto forte 'The car that motorbikes chase rides very fast'

- Passive sentences

n°14 Le volpi sono portate dai lupi 'The foxes are brought by wolves'

- Coordinated sentences

n°19 Gli orsi seguono la zebra e mordono il topo ‘The bears chase the zebra and bite the mouse’

- Left-dislocated sentences

n°17 La torta, lo zio la mangia a colazione ‘The cake, uncle eats it for breakfast’

After I read a sentence, M. was requested to repeat the sentence as accurately as possible. The test was audio-recorded in order to check his performance more times, looking for particular hesitations or little mistakes I could not notice at first listening. The scores were assigned following Alloway & Gathercole (2005) model: if one or more syntactical or lexical errors occurred in the recalled sentence, then the sentence was considered not accurate/correctly produced.

The test was administered to M. in June 2014.

4.9 The passive sentence comprehension task

This test was adapted to Italian by Verin (2010) from a version developed for Greek by Driva & Terzi (2008). The test includes 50 experimental trials, each showing 3 pictures. In each trial, only one picture matched the passive sentence or to the filler stimulus read by the experimenter.

Excluding the trials showing the characters involved and their actions, the battery of the test includes:

- 24 items with actional verbs (like for example, *colpire* ‘beat’, *prendere a calci* ‘kick’) and 16 items with non-actional verbs (like *amare* ‘love’, *annusare* ‘smell’);

Of them, the battery included:

- 20 items with by-phrase and 20 items without by-phrase;

- 20 target items containing the auxiliary *essere* ‘to be’ and 20 items containing the auxiliary *venire* ‘to come’.

The passive structures are built on transitive reversible actional and non-actional verbs. The characters involved in the pictures are four animate agents/experiencers and patients/themes, namely two children (*Marco* and *Sara*) and their parents (*la mamma* ‘mum/their mother’ and *il papà* ‘dad/their dad’), but only *Marco* and *Sara* are used in the list of items. I will provide some examples of the target items in the following list. The complete list of items can be found in the Appendix A.

- Items with actional verbs

n°15 In quale foto Sara è presa a calci? ‘In which photo Sara is being kicked?’

- Items with non-actional verbs

n°30 In quale foto Marco viene annusato? ‘In which photo Marco is smelled?’

- Items with by-phrase

n°4 In quale foto Marco è visto da Sara? ‘In which photo Marco is seen by Sara?’

- Items without by phrase

n°18 In quale foto Marco è spinto (by...)? ‘In which photo Marco is being pushed (by...)?’

- Items containing the auxiliary *essere* ‘to be’

n°17 In quale foto Sara è amata da Marco? ‘In which photo Sara is loved by Marco?’

- Items containing the auxiliary *venire* ‘to come’

n° 11 In quale foto Sara viene amata? ‘In which photo Sara is (comes) loved?’

The test was presented on a laptop screen. Figure 5 shows an example of an experimental trial:



Figure 5. Experimental trial matching the sentence *In quale foto Sara è presa a calci?* ‘In which photo Sara is being kicked?’ (item n°15)

In the training session, I showed the characters and the objects involved in the task, in order to make M. familiarize with them. I read the target questions and M. had to point to the correct picture. The student did not receive any feedback after his responses. Fillers and target questions were presented in random order. The test was administered to M. in August 2014.

4.10 The passive sentence production task

The test consists of 24 experimental trials showing 2 pictures (if it is aimed at eliciting the production of a passive sentence) or 3 pictures (if it is a filler). The experimental trials include:

- 12 items eliciting passives with actional verbs (like *colpire* ‘beat’, *prendere a calci* ‘kick’);
- 12 items eliciting passives with non-actional verbs (like *amare* ‘love’, *annusare* ‘smell’).

Figure 7 and (37) shows an example of experimental trial eliciting a passive with actional verb and Figure 8 and (38) shows an example of experimental trial eliciting a passive with non-actional verb. The complete list of items can be found in the Appendix A.



Figure 7. Experimental trial eliciting passive sentence with an actional verb (item n° 7)

(37) **Experimenter:** Nella prima foto Marco colpisce Sara. Nella seconda, Il papà colpisce Sara. Cosa succede a Sara nella seconda foto?

Target: Sara è/viene colpita dal papà.

Experimenter: ‘In the first picture Marco hits Sara. In the second one, dad hits Sara. What happens to Sara in the second picture?’

Target: ‘Sara is hit by dad.’



Figure 8. Experimental trial eliciting a passive sentence with a non-actional verb
(item n°17)

(38) **Experimenter:** Nella prima foto Marco ama Sara. Nella seconda, il papà ama Sara.

Cosa succede a Sara nella prima foto?

Target: Sara è/viene amata da Marco.

Experimenter: ‘In the first picture Marco loves Sara. In the second one, dad loves Sara.

What happens to Sara in the first picture?’

Target: ‘Sara is loved by Marco.’

The experimental trials are built on transitive reversible actional verbs (such as *colpire* ‘beat’ or *prendere a calci* ‘kick’) and non-actional verbs (such as *amare* ‘love’ or *annusare* ‘smell’). The characters involved in the pictures are four animate agents/experiencers and patients/themes, namely two children (*Marco* and *Sara*) and their parents (*la mamma* ‘mum/their mother’ and *il papà* ‘dad/their dad’). Before starting the task, I presented the characters through the 15 trials, showing the characters and their actions. In the first 5 trials I presented the characters involved in

the task (*Questo è Marco* ‘This is Marco’, *Questa è Sara* ‘This is Sara’, *Questa è la mamma* ‘This is mum’, *Questo è il papà* ‘This is dad’). In the following 10 trials I presented the verbs included in the task (*Maria ama il suo orsacchiotto* ‘Mary loves her teddy bear’; *Maria vede la palla* ‘Mary sees the ball’; *Giovanni insegue la palla* ‘John chases the ball’; *Giovanni colpisce la sedia* ‘John hits the chair’, etc.). After having presented the pictures I asked M. *Chi è questo?* ‘Who is this?’ and *Cosa sta facendo Marco/Sara?* ‘What is Marco/Sara doing?’ for each character and each verb. Finally, I started presenting the experimental trials. For each of them, I described the two pictures and then asked M. a question. Since the patient was the discourse topic, M. was forced to start the sentence with it and I expected a passive sentence.

There are two types of target sentences expected: passive sentences with by-phrase expressed (12 experimental trials) and passive sentences in which the by-phrase could be omitted (12 experimental trials). Figure 9 and (39) show an example of trial eliciting sentence having the *by*-phrase, whereas Figure 10 and (40) show an example of trial eliciting a sentence lacking the *by*-phrase.

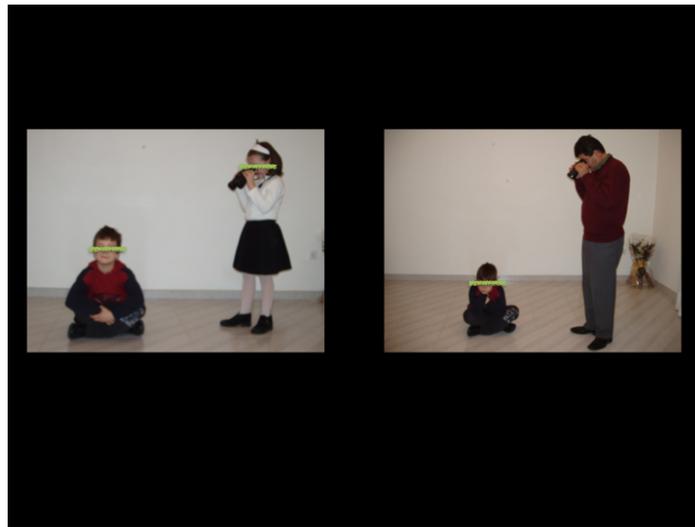


Figure 9. Experimental trial eliciting a sentence having the *by*-phrase (item n°4)

- (39) **Experimenter:** Nella prima foto Sara vede Marco. Nella seconda il papà vede Marco.
Cosa succede a Marco nella prima foto?

Target: Marco è/viene visto da Sara.

Experimenter: ‘In the first picture Sara sees Marco. In the second one dad sees Marco.’

What happens to Marco in the first picture?

Target: ‘Marco is seen by Sara’



Figure 10. Experimental trial eliciting a sentence lacking the *by*-phrase (item n°2)

(40) **Experimenter:** Nella prima foto Sara imbecca la mamma. Nella seconda Sara imbecca Marco. Cosa succede a Marco?

Target: Marco è/viene imboccato

Experimenter: ‘In the first picture Sara is feeding mum. In the second one Sara is feeding Marco. What is happening to Marco?’

Target: ‘Marco is being fed’

The 12 filler sentences included in the battery of the test aim at distracting the participant from the real purpose of the test. The filler items consist in questions eliciting simple active sentences. They contain transitive verbs and inanimate subjects. Figure 11 and (41) show an example of a filler sentence.



Figure 11. Example of a filler sentence (item n°6)

(41) **Experimenter:** Cosa succede nella prima foto?

Target: Sara annusa il fiore.

Experimenter: ‘What is happening in the first picture?’

Target: ‘Sara smells the flower’

I administered this test to M. in July 2014 in one session lasting 15 minutes. His production of passive sentences was audio-recorded and transcribed.

The passive sentence production test was administered to M. earlier than the passive sentence comprehension test and in a different session, in order to avoid influence of the latter on the former.

4.11 The relative clause comprehension task

The test consists of 80 experimental items, among which 60 experimental trials and 20 filler sentences are included. The experimental trials can be distinguished into ten different categories, each of them including six items. In the following list the different categories are presented and for each of them an example of experimental trial is provided⁶:

- Ambiguous experimental trials (AMB)

AMB_SG_SG (Item n°1) La pecora che lava il cavallo ‘The sheep that washes the horse’

AMB_PL_PL (Item n°6) I pesci che tirano i pinguini ‘The fishes that pull the penguins’

- Unambiguous subject relative clauses (SR)

SR_SG_PL (Item n°14) Il coniglio che colpisce i topi ‘The rabbit that hits the mice’

SR_PL_SG (Item n°3) I leoni che guardano l’elefante ‘The lions that look at the elephant’

- Object relative clauses with embedded subject in preverbal position (OR)

OR_SG_SG (Item n°52) Il leone che la gallina tira ‘The lion that the chicken pulls’

OR_PL_PL (Item n°32) Le oche che i pinguini fermano ‘The geese that the penguins stop’

OR_SG_PL (Item n°5) Il pinguino che i gatti guardano ‘The penguin that the cats look at’

OR_PL_SG (Item n°7) I gatti che la pecora colpisce ‘The cats that the sheep hits’

- Object relative clauses with embedded subject in post-verbal position (ORp)

ORp_SG_PL (Item n°21) La pecora che tirano le scimmie ‘The sheep that pull the monkeys’

ORp_PL_SG (Item n°9) I conigli che tira la gallina ‘The rabbits that pulls the chicken’

⁶ SG is an abbreviations that stands for ‘singular’, and PL stands for ‘plural’. They refer to the number of the head DP and the number of the embedded DP. For example, the abbreviation SR_PL_SG indicates that the sentence is a subject relative, in which the first DP is plural and the second DP is singular.

- Filler sentences (F)

SVO (Item n°8) Il topo che legge un libro ‘The mouse that reads a book’

Each experimental trial contains four pictures which represent the possible referent choices. The experiment was preceded by a training session in which I introduced to M. the lexical verbs used in the experimental trials and I made sure that he had understood the instructions correctly. The verbs used in the task are: *lavare* ‘to wash’, *colpire* ‘to hit’, *inseguire* ‘to chase’, *portare* ‘to bring’, *tirare* ‘to pull’, *beccare* ‘to peck’, *spingere* ‘to push’, *spaventare* ‘to scare’, *toccare* ‘to touch’, *pettinare* ‘to comb’, *fermare* ‘to stop’, *baciare* ‘to kiss’, *guardare* ‘to look at’, *mordere* ‘to bite’, *seguire* ‘to follow’, *salutare* ‘to greet’, *rincorrere* ‘to run after’. All sentences are semantically reversible. In the experimental trials only animate nouns are used. All verbs are transitive and in the present tense.

After the training session, I started reading the list of stimuli. Each trial began with *Tocca* (‘Touch’) followed by the embedded relative clause. When the verb *toccare* (‘to touch’) was present in the relative clause, I used *Indica* (‘Point to’) in order to prevent confusion.

The possible correct answers were different according to the different kinds of sentence presented. In the ambiguous clauses, the possible correct answers were two instead of one while in the unambiguous sentences only one correct answer was accepted. The answers were recorded on the response sheet as follows:

- Correct (C), when the answer was correct;
- Reversible (R), when theta-roles were inverted;
- Agentive (AG), when the agent was selected instead of the head;
- Other (A), when any other type of mistake was made.

Figure 12 shows an example of an experimental trial.

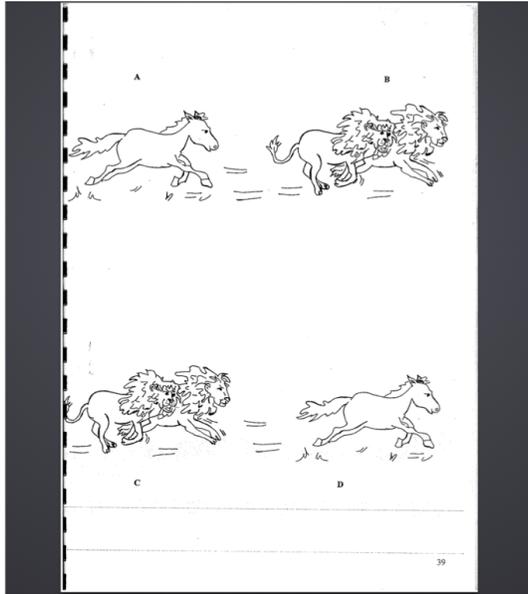


Figure 12. Experimental trial matching the sentence *Tocca il cavallo che insegue i leoni* 'Touch the horse that follows the lions' (item n°39)

I reported the answers on the response sheet.

The test was administered to M. in August 2014.

5 The experiment: results on the different tasks

5.1 Introduction

This chapter is concerned with the results of the standardized and non-standardized tests administered to M. In the first part of the chapter standardized tests data will be presented and, in the second part, non-standardized tests data will be showed. In each section the responses are followed by comparisons with data from the students acting as controls and finally, results are discussed. In two sections (5.2.2 and 5.2.3) a distinction between qualitative and quantitative data analysis is provided. In addition to this, section 5.2.3 discusses the use of clitic pronouns.

5.2 Results on the standardized tests

In the following sections, I will describe the results recorded in the administration of standardized tests (both to M. and to the controls). Then, the recorded data will be compared with normative data.

5.2.1 Peabody PPVT-R

In the following table all scores are reported, of both M. and the control group.

Table 2. Results of PPVT-R (M. and control group)

	Starting point	Basal	Ceiling	Errors	Raw score	Standard equivalent score	Age of the standard equivalent score
M	90	82	145	16	129	95	10;7 - 11;6
S	90	90	175	12	163	122	10;7 - 11;6
G	90	82	175	12	163	122	10;7 - 11;6

For all the subjects, the starting point was 90 but for two of them (M. and G.) the basal was 82. This means that an error occurred in the first eight items. The ceiling scores are different: control group reached the item 175 (with 12 errors) while M. stopped at the item 145 (with 16 errors). The difference between the ceiling and the errors showed the raw scores, which were higher for S. and G. (122) than for M. (95). The correspondent age of the standard equivalent scores were found in the handbook of the test and it is the same for all the subjects (10;7-11;6).

5.2.1.1 Discussion on PPVT-R data

According to the standard equivalent score displayed in Table 2, M.'s performance was lower than that of the control group (M. 95, S. 122, G. 122). Vocabulary deficits are frequently reported in studies on dyslexic subjects (Scarborough, 1990; Wolf & Obregón, 1992). Vocabulary deficits and problems in word-finding are often considered as early predictors of later and problematic reading achievements. In particular, the vocabulary used by dyslexic children has been compared to that of age-matched typically developing children and it emerged that the former is underdeveloped. However, SLI includes later emergence of language and impairment in the reception of linguistic messages (Leonard, 2000). Therefore M.'s poor vocabulary can be ascribed to different language disorders.

5.2.2 Test di Comprensione Grammaticale per Bambini (TCGB)

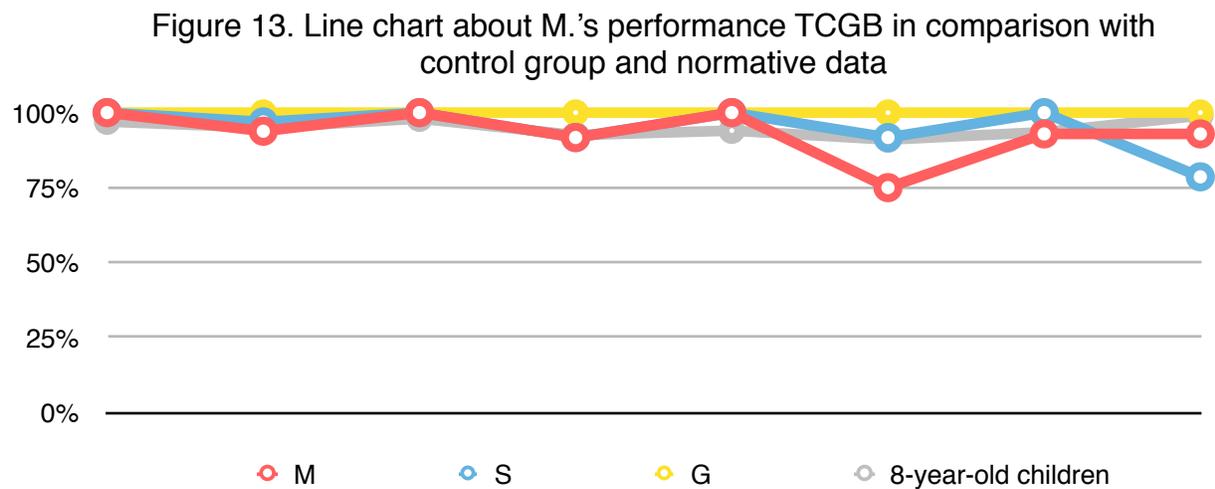
In the following section, the results of the TCGB test are provided. M.'s results are compared to those collected from control participants and the normative data included in the handbook.

5.2.2.1 Quantitative analysis of TCGB data

In Table 3 all the results and the percentages of each participant can be found, compared with those scored by 8-year-old children (the rank selected by same score results in the normative data) and by younger subjects with more similar percentages to M.'s results. Figure 13 shows the data presented in Table 3 in a clear visual pattern.

Table 3. Resumed data of correct answers % (M., control group and normative data)

	Locative sentences	Flexive morphology	Active affirmative sentences	Active negative sentences	Passive affirmative sentences	Passive negative sentences	Relative sentences	Dative sentences	Total score
	L	F	AA	AN	PA	PN	R	D	
M	100%	93,8%	100%	91,7%	100%	75%	92,9%	92,9%	94,8%
S	100%	96,9%	100%	91,7%	100%	91,7%	100%	78,6%	96%
G	100%	100%	100%	100%	100%	100%	100%	100%	100%
8-year-old children	97%	95%	98%	92,5%	94%	91%	93,5%	99%	95%
Scores more similar to M's and age correspondent	8 years (97%)	8 years (95%)	8 years (98%)	7 years 6 months (91,5%)	8 years (94%)	5 years (71%)	7;6 years (93%)	7 years (94%)	8 years (95%)



M.'s performance was lower than that of the control group (M. 94,8%; S. 96%; G. 100%). It could be argued that M.'s performance was not so distant from S.'s one but the significant fact is that M.'s score is even lower than the standard medium result scored by 8-year-old children (M. 94,8% vs 8-year-old children 95%). Taking into account the different types of sentences, M.'s scores can be compared to the closest scores recorded in normative data by children aged from 5 to 8 years old. In particular his difficulties are to be found in the following sentence typologies:

- Inflectional sentences (M. 93,8% vs 95% scored by children aged 8).
- Active negative sentences (M. 91,7% vs 91,5% scored by children aged 7;6)
- Passive negative sentences (M. 75% vs 71% scored by children aged 5)
- Relative clauses (M. 92,9% vs 93% scored by children aged 7;6)
- Dative sentences (M. 92,9% vs 94% scored by children aged 7)

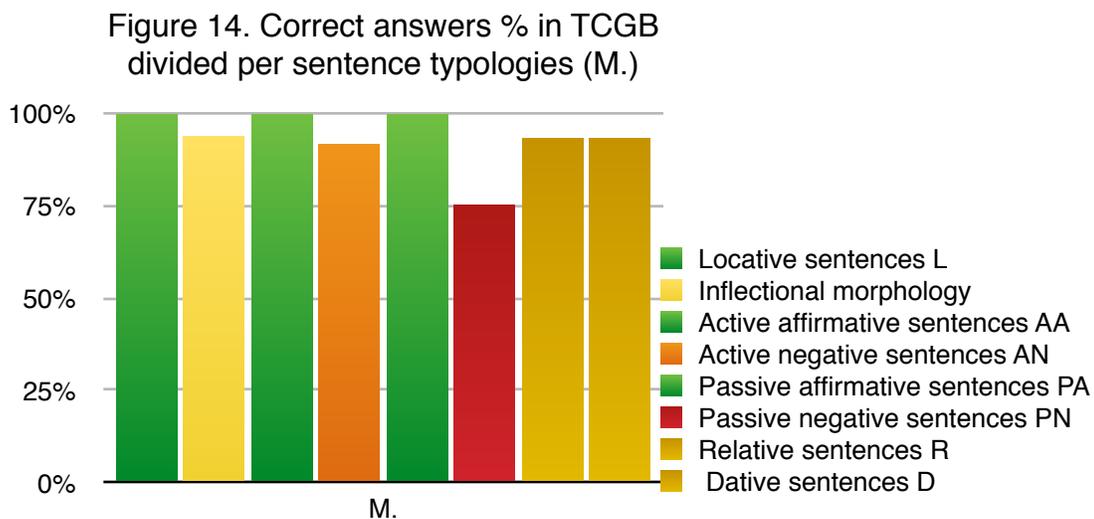


Figure 14 highlights M.'s greatest difficulties.

In particular the errors occurred in:

- negation (both active and passive);
- relative clauses;
- dative sentences;
- inflectional morphology.

5.2.2.2 Qualitative analysis of TCGB data: types of errors

This section shows the different types of errors recorded by M. They are reported below.

Errors in active negative sentences:

0,5 points in sentence n° 53 - *La bambina non spinge il bambino* ('The girl is not pushing the boy') - Active negative reversible verb



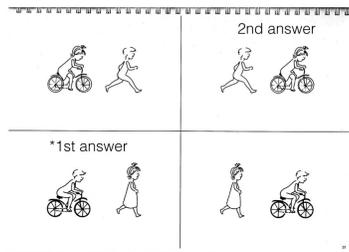
Errors in passive negative sentences:

1,5 points in sentence n° 62 - *Il bambino non è spinto dalla bambina* ('The boy is not being pushed by the girl') - Passive negative reversible verb



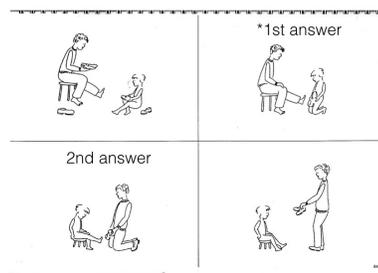
Errors in relative clauses:

0,5 in sentence n° 31 - *Il bambino rincorre la bambina che è in bicicletta* ('The boy is chasing the girl who is riding her bicycle') - Relative final Object Subject



Errors in dative clauses:

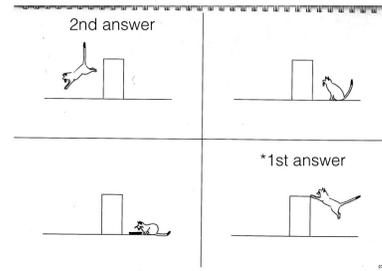
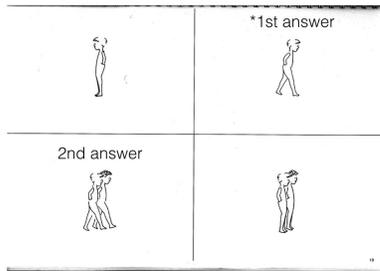
0,5 in sentence n° 64 - *Il babbo mette le scarpe al bambino* ('Dad is putting the shoes on the boy's feet') - Animated subject, Not-animated object, Animated second argument, probability good.



Errors in the use of inflectional morphology:

0,5 points in sentence n° 19 - *Camminano* ('They are walking') - Plural inflected verb

0,5 points sentence n° 27 - *Il gatto ha saltato* ('The cat jumped') - Past inflected verb



5.2.2.3 Discussion on TCGB data

In the experimental testing of normative data (Chilosi & Cipriani, 2006) it was noticed that the different structures are acquired at different ages. When children scored more than 80% in one of the sentence categories, it was assumed that the structure was acquired. The handbook reports the different ages at which each sentence type is acquired. I report here the table with the structures in order of acquisition provided by the test handbook:

Table 4. Structures acquisition order provided by Chilosi & Cipriani (2006)

3;6	4	4;6	5	5;6	6	6;6	7	7;6	8
		Locative sentences	Active affirmative sentences	Inflectional morphology (verbal and nominal)		Active negative sentences			
			Dative sentences	Passive affirmative sentences					
				Relative clauses					
				Passive negative sentences					

According to Table 4 errors in active negative sentences are quite normal since the structure is acquired later than others (negative sentences are comprehended at age 6;6). Inflectional morphology, relative and passive negative sentences are acquired in advance, at 5;6. Dative sentences seem to be easier in acquisition (they are comprehended at age 5). M.'s most striking score is that of passive negative sentences, which is below the medium score performed by children aged 5;6. It could be argued that also S. performed below the medium score of 5-year-old children in dative structures, which are to be acquired even sooner than passive negative sentences. The difficulties and the errors found in the participants' performance might be due to the following reasons:

- S. performed the test at 13:10 pm, immediately after a school day so that attention was low and tiredness was high;
- his total score is better than M.'s one (S. 96% vs M. 94%);

Therefore S.'s performance is only reported for a matter of completeness but it was not taken into account in the present study.

Focusing on M.'s performance, there are reasons to believe that his errors are comparable to those made by dyslexic children and children with SLI. Van der Lely & Harris (1990) investigated the comprehension of complex syntactic structures such as reversible active and passive sentences, locative sentences and dative sentences. The result of the study was that children with SLI performed poorer than score controls as well as age controls (Van der Lely & Harris, 1990). According to this study a possible explanation for these findings is that children with SLI have great difficulty in the assignment of roles such as agent and theme or theme and goal being the syntactic structure their only support. As for the use of grammatical morphemes, there seem to be some which are disproportionately difficult for children with SLI. It is the case of inflectional morphology. It is reported in literature that school-age SLI children display lower percentages of use of the third-person singular inflection in an obligatory context (King & Fletcher, 1993). Other studies confirm that problematic verb-inflection morphology for English SLI children is found in the formation of the regular past -ed and in the third singular -s (King et al., 1995). Since the syntactic structures mentioned above (reversible active sentences, passive sentences, locative sentences, dative sentences) and inflectional morphemes were similarly all

disturbing elements to M., it is possible that a specific language impairment is present in the subject of this study. Yet syntax and morphology are severely affected by dyslexia too. In the specific, relative clauses, passive sentences, and inflectional agreement have been studied in relation to dyslexic disorders, proving that these structures are damaged in most of the cases.

Relative clauses comprehension and production are remarkably compromised in dyslexic children, probably due to the necessity of additional working memory computation (Bar Shalom et al., 1993; Gibson, 1991,1998). Passive sentences interpretation has been investigated by Reggiani (2010), who found that reversible non-actional passive sentences are performed by dyslexics at the same level of preschool children. Several studies on inflectional agreement (Joanisse et al., 2000; Jiménez et al., 2004; Rispens et al., 2004) revealed that dyslexic children performed lower than typically developing children in grammaticality judgement tasks, failing to recognize agreement mistakes. They also produced considerably higher percentages of incorrect inflections as opposed to control groups (17% incorrect infl. vs 99% correct infl.).

5.2.3 Prove di Valutazione Grammaticale dell'Italiano Scritto

The test was administered only to M. and video-recorded. The response sheets were filled with his answers, divided into three main categories: articles, pronouns and prepositions. Each category was then subdivided according to the different tasks:

- 1) Articles task
- 2) Pronouns tasks
 - 2a) Pronouns 1: gender and case agreement
 - 2b) Pronouns 2: case choice
 - 2c) Pronouns 3: pronoun position into the sentence
- 3) Prepositions task
 - 3a) Insertion

- 3b) Multiple choice 1
- 3c) Multiple choice 2
- 3d) Comprehension of sentences
- 3e) Production of sentences.

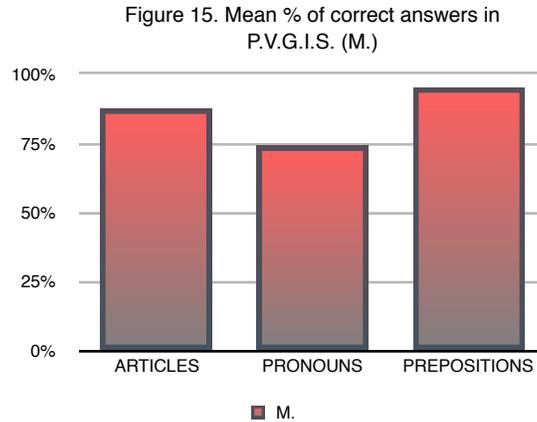
Evaluation of the data can be either quantitative (percentage of correct responses in each category) either qualitative (analysis focusing on the different errors typologies). I will provide a quantitative analysis of all the structures tested followed by a qualitative analysis of errors made by M. in the section dedicated to pronouns.

5.2.3.1 Quantitative analysis (Prove di Valutazione Grammaticale dell’Italiano Scritto)

In Table 5, I will provide M.’s correct answers percentages in the different tasks of Prove di Valutazione Grammaticale dell’Italiano Scritto.

Table 5. Correct answers % in PVGIS (M.)

		M.
ARTICLES	Articles	87,5%
PRONOUNS	Pronouns 1 (gender and number agreement)	93,8%
	Pronouns 2 (case choice)	62,5%
	Pronouns 3 (pronoun position into the sentence)	66,7%
PREPOSITIONS	Prepositions (insertion)	100%
	Prepositions (multiple choice 1)	100%
	Prepositions (Multiple choice 2)	87,5%
	Prepositions: Comprehension of sentences	93,8%
	Prepositions: Production of sentences	93,8%



The best performance is in the preposition insertion task (100% correct). The worst performance was recorded in the pronouns task 2 - Case choice (62,5% correct).

The mean percentages of M.'s performance in each task provided in Figure 15 shows that in the use of pronouns, M. got the lowest score (74,3%) while in the use of prepositions he got the highest one (95%). With a mean percentage of 87,5% of correct answers, articles are in between the two. Normative data were obtained through the administration of the test to children at primary and secondary schools. According to Caselli et al. (1996) all tasks were easily carried out with high percentages of correctness by primary school children. Improvement in the performances is correlated to the increase of subjects' age. There are however two particular tasks which seem to be the most difficult ones regardless of the age of the subjects: Pronouns 2 (case choice) and Prepositions (Multiple choice 2). All data is provided in Table 6.

Table 6. Correct answers % in PVGIS (M. and normative data)

	M.	Primary school children	Secondary school children
ARTICLES	87,5%	96,1%	97,3%
	93,8%	88,8%	94,7%
PRONOUNS	62,5%	83,4%	90,3%
	66,7%	89,4%	92,7%
	100%	97,3%	100%
PREPOSITIONS	100%	98,1%	99,6%
	87,5%	84,2%	93,6%
	93,8%	87,8%	84,4%
	93,8%	97,8%	97,3%
	93,8%	97,8%	97,3%

5.2.3.2 Discussion of quantitative data (Prove di Valutazione Grammaticale dell'Italiano Scritto)

Lots of studies have demonstrated that even in spontaneous comprehension and production tasks children before they reach 8-9 years cannot use the pronominal system as adults can do (Tyler, 1983; Karmiloff - Smith, 1986). It has been proposed that morphological elements (pronouns) distributed throughout the sentence can cause high elaboration efforts (D'Amico & Devescovi, 1993). In this way the use of these elements will be difficult for children until something changes in their memory organizational system or until they achieve some new metalinguistic skills (Devescovi, Orsolini & Pace, 1989). The task Pronouns 2 requires that children are able to do a series of complex operations: reading and interpreting an entire sentence; giving thematic roles to all nominal elements found in it; interpreting the verbal elements and comparing the sentence with a very similar one, which lacks one of the nominal elements. Yet they still have to infer the correspondence between the two sentences and choose the correct pronoun. This process involves inferential skills, which can only be achieved after 8-9 years.

For what concerns the Prepositions tasks, the most problematic seems to be the Multiple choice 2. Also the Pronouns 2 task seems to be difficult, since a complexity of cognitive and linguistic competence is involved. From a cognitive point of view, the correct answer has to be recognized among lots of other choices, more than in the Multiple choice 1 task. In addition to this, from a linguistic point of view, the completion of sentences requires a choice among different types of subordinate structures. It means that the sentences containing the prepositions involved in this task are syntactically more complex than those used in the other tasks.

5.2.3.3 Qualitative data: analysis and discussion (Prove di Valutazione Grammaticale dell'Italiano Scritto)

An important remark must be done on the Pronouns 3 task. The participant was asked to read a sentence and substitute a highlighted element with a pronoun, creating a complete new sentence. In four of the twelve productions the clitic pronoun is not placed in the right position.

1. **Item:** *La nonna cerca di acchiappare il gatto* ('Grandma tries to catch the cat')

Target: *La nonna cerca di acchiapparlo* ('Grandma tries to catch it')

Production: **La nonne⁷ lo cerca di acchiappare* (* 'Grandme tries it to catch')

2. **Item:** *La mamma pensa di nascondere il regalo*. ('Mum thinks about hiding the present')

Target: *La mamma pensa di nasconderlo* ('Mum thinks about hiding it')

Production: **La mamma lo pensa di nascondere* (* 'Mum thinks about it to hide')

3. **Item:** *I ragazzi pensano di vincere il premio* ('The guys believe they will win the price')

Target: *I ragazzi pensano di vincerlo* ('The guys believe they will win it')

Production: **I ragazzi lo pensano di vincere* (* 'Guys believe they it will win')

4. **Item:** *La guardia cerca di prendere il ladro* ('The guard tries to catch the thief')

Target: *La guardia cerca di prenderlo* ('The guard tries to catch it')

Production: **La guardia lo cerca di prendere* (* 'The guard tries it to catch')

The sentences marked with (*) cannot be considered grammatically acceptable by any mother tongue speaker of Italian language.

⁷ The agreement mistake (fem. plural instead of fem. singular) is not taken into account in the present study.

5.2.3.3.1 Clitic pronouns

Clitics in romance languages include mostly object personal pronouns, which derive from the Latin distal demonstrative ILLE (the third person clitic pronouns) or from Latin pronouns (the first and the second person clitic pronouns) (Cardinaletti, 2008). Clitic pronouns select a verb as their host and they are subject to a variety of morphosyntactic constraints (Ruschi, 1966). In the case of an occurrence with a non-finite verb, the Italian clitic pronouns must be placed in post-verbal position.

(41) per salutar-lo
to greet.INF-him

(42) *per lo salutare

In some particular occurrences of the clitic with infinite verbs though, a specific configurational property called Clitic ‘climbing’ interferes with the constraint previously mentioned. The property consists in the power of the clitic pronoun to attach to V1 in V1+infinitive V2 constructions (e.g., It. lo vorrei salutare - vorrei salutarlo ‘I want to greet him’). Italian clitic pronouns are therefore subject to different behaviors. In enclitic position, they occur immediately after the host verb (43); in proclitic position, they occur immediately before the verb (44).

(43) Ho appena finito di mangiar-lo.
‘I’ve just finished eating it.’

(44) L’ho mangiato con grande appetito.
‘I’ve eaten it with much appetite.’

The general pattern of clitic linearization could be drawn quite easily: the position of Italian clitics with respect to their host verb is ruled by the morphosyntactic identity of the host (finite or

non-finite). This generalization fails to account for more complex situations though, like the negative imperative, where clitics proclisis or enclisis seems to be an arbitrary behavior.

(45) Non mangiar-lo!
'Don't eat it!'

(46) Non lo mangiare!
'Don't eat it!'

In a comparison between Italian and Bantu language (Cardinaletti, 2008) the complexity of the clitic system is deeply investigated, discovering that clitics can be formed from either one functional head (allowing both enclisis and proclisis) or from adjunct heads (allowing only proclisis). The hierarchy of person and number features in the high clitic position is discussed, giving further explanations on the restrictions they are subjected to. Given the peculiarity of the Italian clitic pronominal system it seems reasonable that the acquisition of it by children takes longer time and can create some great difficulties with it. There are studies on SLI children giving reason to the hypothesis that one of the striking features in the productions by Italian children with SLI is their limited use of function words such as articles and clitics. This is attested on the basis of existing normative data as a standard, both with approximately the same MLU (Mean Length of Utterance) (Leonard, 2000).

5.3 Results on the non-standardized tests

5.3.1 The sentence repetition task

Except for some hesitations (sentences n°11, 13 and 20), the sentence repetition task was generally performed perfectly. Hesitations consisted in babbling or difficulty in articulation of one word, but there were no spelling mistakes and all words were repeated in the correct order.

Therefore I cannot consider errors those hesitations and his score is stated as 100% correct. Developmental dyslexia is considered as an inefficiency in the working memory which can be genetically inherited and neurologically determined. Working memory is the information-processing system which is crucial to learning and performing conventional educational and work settings (Mc Laughlin et al., 2002). Therefore working memory is proved to play a fundamental role in cognitive and linguistic skills and it has been hypothesized that dyslexia is related to its deficiency. Unfortunately this test cannot help in asserting the perfect functioning of M.'s working memory but it is an useful tool to underline which morphosyntactic areas are more damaged. In this case no particular areas seem to be in danger.

5.3.2 The passive sentence comprehension task

M. performed at 98% correct. Only one passive sentence was matched to the wrong picture. The sentence is reported below together with the target item expected.



Figure 16. Passive s. comprehension task (M.)

Sentence n° 22

Experimenter: *In quale foto Sara viene amata da Marco?* ('In which photo Sara is loved by Marco?')

Target: '1'

Production: '3'

One mistake does not allow to make particular observations on M.'s passive sentences comprehension abilities which seem to be quite intact. The difficulties with the representation of non actional verbs included in this test is common to both children and adults and are mainly due to the difficult representation of this verb class.

5.3.3 The passive sentence production task

Table 7 shows the number and percentage of the passive sentences produced by M.

Table 7. Number and % of passive s. production (M.)

	PASSIVE PRODUCTIONS	OTHER PRODUCTIONS
Number of sentences	23	1
%	95,8%	4,2%

According to a quantitative analysis of the responses, the high percentage of passive production indicates that M. masters well the passive structure as it was expected from the controls provided in normative data. Table 8 displays the comparison between M.'s results and data provided by Volpato et al. (2013).

Table 8. % of passive s. production (M. in comparison with children and adults)

	M. 14	Adults 20-24	Children 3;5-4;3	Children 4;4-5;1	Children 5;1-6;0	Children 5;2-6;2
% of passive productions	95,8%	82%	14%	2%	38%	0%

The percentage of passive sentences produced depends on the group considered. The group of adults produced the highest percentage of target sentences. M.'s production is anyway higher than that recorded by adults aged 20-24. This could be explained on the basis of the great variety found in the other age groups percentages. A considerable number of passive sentences are also found in the group of children 5;1-6;0. Interestingly, the group of children 5;2-6;2 did not produce any passive sentence, showing a very different behavior from the group 5;1-6;0 which is very close to it in age range. Even if M. is 6-10 years younger than adults tested, the great variety in the children's responses makes it possible to record higher percentage by an adolescent than by adults. Table 9 and 10 shows more detailed data on the passive sentences production in M.'s test, in comparison with data on adults 20-24 by Volpato et al. (2013).

Table 9. Different strategies % used in passive production (M. compared with adults)

	M. 14	Adults 20-24
Passive sentences	95,8%	82%
Accusative clitics	0%	0%
Dative clitics	0%	0%
SVO simple sentence	0%	17%
Other strategies	4,2%	1%

Table 10. Other strategies % used in passive production (M. compared with adults)

	M. 14	Adults 20-24
Presence of by-phrase	95,8%	99,7%
Auxiliar "essere"	0%	49%
Auxiliar "venire"	100%	52%

It can be noticed that the only relevant difference can be found in the use of auxiliaries. M. used *venire* in all sentences while in the group of adults 20-24 there is more variation. Another interesting value that should be taken into consideration is the total lack of dative clitics use by M., which is though confirmed by the same 0% produced by adult controls. The list below shows examples of the different strategies employed by M.

Passive sentence

Sentence n° 2. **Target :** (Marco) è/viene imboccato da Sara ('Marco is being fed by Sara')
Production: Viene imboccato da Sara ('He is being fed by Sara')

Other strategies

Sentence n° 9. **Target:** (Sara) è/viene sentita da Marco ('Sara is heard by Marco')
Production: Parla a Marco ('She speaks to Marco')

Presence of by-phrase

Sentence n° 11. **Target:** (Marco) è/viene baciato da Sara ('Marco is being kissed by Sara')
Production: Viene baciato da Sara ('He is being kissed by Sara')

Auxiliar 'venire'

Sentence n° 7. **Target:** (Sara) è/viene colpita dal papà ('Sara is being hit by dad')
Production: Viene colpita dal papà ('She is hit by dad')

In addition to the previously provided data, I would like to highlight another issue that arose in M.'s Passive production test: little mistakes that cannot be included in any other bigger mistakes category. They do not seriously compromise the grammatical acceptability of the sentence but they slightly affect it in a way that is not expected from a high school student. All the imperfections (including those on filler stimuli) are showed in Table 11 and M.'s entire passive

productions are available in Appendix B. I will now provide a short sample of them including one sentence per type of mistake.

Hesitations (babbling)

Sentence n° 22. **Target:** (Il papà) è/viene sentito da Marco ('Dad is heard by Marco')
Production: Viene...Viene sentito da Marco ('He is...is heard by Marco')

Gender Agreement problems

Sentence n° 14. **Target:** (La mamma) è/viene spinta da Marco ('Mum is being pushed by Marco')
Production: Viene spinto da Marco ('He is being pushed by Marco')

Use of a different verb different from the target one

Sentence n° 27. **Target:** Marco sente la radio ('Marco hears the radio')
Production: Marco ascolta la radio ('Marco is listening to the radio')

Other strategies (actional verb transformed into non-actional)

Sentence n° 17. **Target:** (Sara) è/viene amata da Marco ('Sara is loved by Marco')
Production: Viene abbracciata da Marco ('She is hugged by Marco')

Use determinative article instead of no article⁸

Sentence n° 16. **Target:** Sara bacia il cane ('Sara is kissing the dog')
Production: La Sara bacia il cane ('Sara is kissing the dog')

⁸ This cannot be considered an error, but it is listed in Table 11 as frequent non standard production.

Table 11. Other mistakes in passive s. production (M.)

PASSIVE SENTENCES					
	Hesitations (babbling)	Gender agreement problems	Use of a different verb	Other strategies	* (use of articulated prep instead of simple prep / determinative article instead of no article)
sentence n°	22	14	27 (filler)	8 (filler)	5
sentence n°	23 (filler)	31	34	17	12
sentence n°			36 (filler)		16 (filler)
sentence n°					20
sentence n°					29
sentence n°					31
sentence n°					34
Total	2	2	3	2	7
%	5,5%	5,5%	8,3%	5,5%	19,4%
Total without fillers	1	2	1	1	6
% without fillers	4,2%	8,3%	4,2%	4,2%	25%

Hesitations and babbling were present in only 2 sentences, as well as the use of different strategies. What is particularly important is M.'s difficulty with gender agreement in 2 sentences: the verb morphology is not matched to the gender of the patient (Sentence n°14). Finally, 7 sentences are marked by the use of articulated prepositions instead of simple prepositions or determinative article instead of no article (Sentence n° 16). This can be related to the regional variety of language spoken in Veneto and widely used in his school and family environments.

5.3.3.1 Discussion on passive sentence comprehension and production tasks

In the discussion on TCGB data (section 5.2.2.3) a series of studies on passive comprehension competence by dyslexics and children with SLI has been presented. Both populations seem to have remarkable difficulties in processing passive utterances. Through the comparison with adolescents and adults, it can be affirmed that M. performed well in the passive production test. His high level of performance is therefore in contrast with the hypotheses suggested for both

disorders. It should be considered an important feature of SLI though: variability. Leonard (2000) highlights the inflectional variability that often occurs with the same lexical material and points out the big efforts in describing accurately which the SLI subtypes are, since children with SLI turned out to be a very heterogeneous group. On the basis of Volpato et al. (2013), it can be noticed a particular interesting point in relation to the use of clitic pronouns in the passive production task. Children who tend to avoid the production of passive sentences are older and they replace the skipped structure by using a pragmatically adequate alternative strategy. This strategy allows them to refer to the topic patient. The mentioned strategy is simply an active sentence with accusative clitic pronouns. This answer, which corresponds to the most colloquial strategy used in Italian, is pragmatically as correct as a passive sentence would be in the same context. The use of clitic pronouns increases with age. The answers elicited in several tests show that clitic pronouns are not completely available before the age of five or five and a half.

M. never used clitic pronouns as a strategy to avoid the passive construction.

5.3.4 The relative sentence comprehension task

In Table 12 M.'s percentages of correct responses are displayed, following the division into categories.

Table 12. % of correct responses in the relative c. comprehension task (M.)

Sentences types and results		C Correct	R Reversible	AG Agentive	A Other
AMB Ambiguous sentences	AMB_SG_SG	100%	0%	0%	0%
	AMB_PL_PL	100%	0%	0%	0%
SR Unambiguous subject relatives	SR_SG_PL	66,7%	16,7%	0%	16,7%
	SR_PL_SG	100%	0%	0%	0%
OR Unambiguous object relatives with embedded subject in preverbal position	OR_PL_SG	50%	50%	0%	0%
	OR_SG_SG	50%	50%	0%	0%
	OR_SG_PL	66,7%	16,7%	16,7%	0%
	OR_PL_PL	100%	0%	0%	0%
ORp Unambiguous object relatives with embedded subject in post-verbal position	ORp_SG_PL	33,3%	66,7%	0%	0%
	ORp_PL_SG	33,3%	50%	0%	16,7%
Total percentage		70%	25%	1,7%	3,3%

According to Table 12, some of the relative clauses, namely ambiguous sentences, caused no problems to M. Some others strongly affected his comprehension instead. SRs were better comprehended than ORs, which were better understood than ORps. M.'s mean score calculated per each type of answer, showed in Table 12, points out that only the 70% of correct answers were given. M.'s results have been compared with the data provided by Bolognesi (2013). She investigated the comprehension of relative clauses using the same relative clause comprehension task presented in this work. She tested a wider range of subjects: 116 Italian typically-developing children and adolescents. They ranged in age from 4;10 to 17;7 and they all come from the North-East of Italy. They all speak Italian as their first language and some of them also speak dialect in their families. None of them has language impairment nor hearing and/or mental disabilities. Participants were divided into four big groups according to their school education and their age: Kindergarten (4;10-5;10) 13 participants; Primary School (5;11-10;3) 43 participants; Secondary School (11;0-14;0) 40 participants; High School (14;1-17;7) 20

participants. In my analysis I only took into consideration the High School group because of the age matching. In Table 13 M.'s percentages of correct answers are shown in comparison with High school students.

Table 13. % of correct responses in the relative c. comprehension task (M. and High school students)

Sentences types and results		M.	High school (14;1-17;7)
AMB Ambiguous sentences	AMB_SG_SG	100%	96%
	AMB_PL_PL	100%	95%
SR Unambiguous subject relatives	SR_SG_PL	66,7%	98%
	SR_PL_SG	100%	98%
OR Unambiguous object relatives with embedded subject in preverbal position	OR_PL_SG	50%	80%
	OR_SG_SG	50%	91%
	OR_SG_PL	66,7%	92%
	OR_PL_PL	100%	98%
ORp Unambiguous object relatives with embedded subject in post-verbal position	ORp_SG_PL	33,3%	97%
	ORp_PL_SG	33,3%	87%
Total percentage		70%	95%

According to Table 13 the total percentage of correct answers is considerably different: M.'s 70% of correctness is lower than the 95% of correctness by High school students tested by Bolognesi (2013). In order to draw with more precision the similarities and the differences in the general pattern of the relative clause comprehension task, Table 14 shows the mean percentages of both M. and High school students.

Table 14. % of correct responses in the relative c. comprehension task (M. compared with High School students)

	M.	High School (14;1-17;7)
AMB	100%	96,5%
SR	83,4%	98%
OR	66,7%	90,3%
ORp	33,3%	92%

From a quantitative analysis of her data, Bolognesi (2013) stated that the percentages of accuracy for all sentences types are very high not only in the High School group but also in the Secondary School group. The general pattern of performance displayed by these two groups and the others (Kindergarten and Primary School) are not so different. Performance improves with age. The highest scores in comprehension are found in ambiguous relative clauses. Lower scores were recorded for subject relatives, which were comprehended better than object relatives though (both pre- and post-verbal). The most difficult items were the object relatives with post-verbal subjects. The general pattern of accuracy recorded by Bolognesi (2013) for all groups is the general one: $AMB > SR > OR > ORp$. M.'s performance follows the same pattern but with lower scores. A comparison between the percentages of all kinds of responses given by M. and High school students is provided in the following pie charts.

Figure 17. Different answers % (M.)

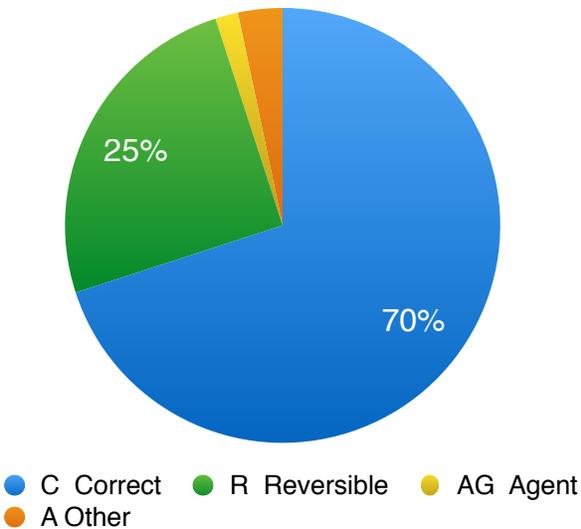
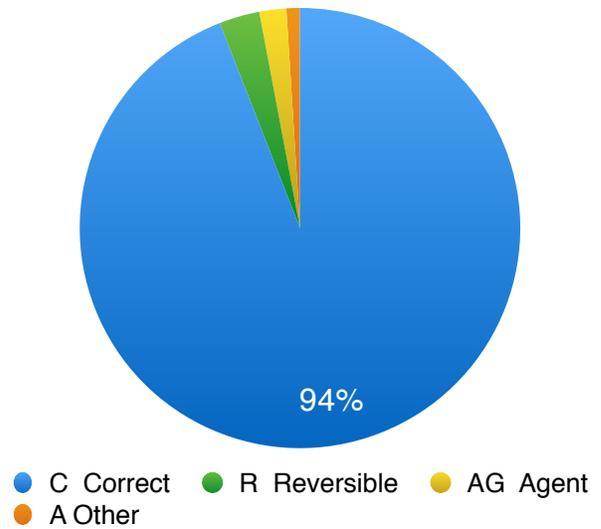


Figure 18. Different answers % High school students



The higher percentage of M.'s reversible answers ($R = 25\%$) is particularly relevant if compared to High school students performance ($R = 3\%$).

5.3.4.1 Discussion on relative clause comprehension data

M.'s performance in comparison with controls of the same age shows that his level of accuracy in the relative clauses comprehension task was lower. Cardinaletti & Volpato (2011) studied the comprehension of relative clauses and passive sentences by a group of 10 Italian university students with language learning impairment. They found that, even if both structures are problematic, passive sentences are mastered better than relative clauses. Two possible reasons are reported in their study. The first is based on the derivation and syntactical structure of the passive and relative structure. Passivization involves the movement of the object (theme of the verb) to the subject position, a position where theta role can be assigned (SpecIP is an A position). Consequently an A chain is built:

- (47) [IP Marco_i è visto da [VP Sara <visto Marco_i>]]
[IP Marco_i is seen by [VP Sara <seen Marco_i>]]

In relative clauses, the element is moved to Spec/CP and the chain created by such movement is an A' chain:

- (48) [CP la tigre_i che [VP <la tigre_i> colpisce gli elefanti]]
[CP the tiger_i which [VP <the tiger_i> hits the elephants]]

On the basis of their research, Cardinaletti & Volpato (2011) hypothesize that language learning impaired subjects have significant difficulties in the interpretation of A' chains (relative clauses) while A chains (passive sentences) are preserved.

The second hypothesis mentioned in the study tries to explain the asymmetry between good performances in the passive sentence comprehension task and the relative clause comprehension task taking into account the role of memory, forced to process long dependencies

Conclusions

The main aim of this study was to investigate language comprehension and production by an Italian 14-year-old adolescent, M., through the administration of standardized and non-standardized tests. M. is male student aged 14;7. He lives in the North-Eastern part of Italy and he is attending the second year of high school in a professional institute. M. was first diagnosed at early age and supported in learning by a professional teacher until the age of 13. As he approached high school, he was included in the category of students with Special Educational Needs. An individual education plan was modeled on his needs by the teaching board of his institute. Yet, his difficulties in learning are considerable. A specific linguistic assessment could help to clarify which are his main difficulties and which strategies could make his education plan more efficient.

The standardized tests that I administered to him and to his controls are: Peabody PPVT-R, Test di Comprensione Grammaticale per Bambini TCGB and Prove di Valutazione Grammaticale dell'Italiano Scritto. In all of them, M.'s performance was lower than the participants acting as controls and the normative data contained in the test handbooks.

The results recorded in PPVT-R, a test of receptive vocabulary for standard Italian, showed that M. has a poor vocabulary if compared to the standard equivalent scores. M. performed 95, while the controls scored 122. The correspondent age indicated for such results is 10;7-11;6. Unfortunately the Italian version of this test is only addressed to children from 3;9 to 11;6. However, results show that he performed lower scores than the controls, which means that his vocabulary is poorer than that of the controls.

TCGB is a picture matching test which investigates the general sentence comprehension of children aged between 3;6 and 8. The test investigates 8 linguistic structures: locative sentences, inflectional morphology of nominal and verbal elements, active affirmative sentences, active negative sentences, passive affirmative sentences, passive negative sentences, relative clauses, and dative sentences. In all types, M.'s performance was lower than that of the controls (M. 94,8%; S. 96%; G. 100%). M.'s score was even lower than the standard mean percentage scored

by 8-year-old children (M. 94,8% vs 8-year-old children 95%). The closest scores to M's performance are recorded in normative data by children aged from 5 to 8 years old. In particular, M. seemed to have more difficulties with the following sentence typologies: inflectional sentences, active negative sentences, passive negative sentences, relative sentences and dative sentences. Since these syntactic structures proved to be problematic also in subjects with SLI, it is possible that language impairment is also present in M. Furthermore, syntax and morphology are severely affected in dyslexic cases too. Relative clauses, passive sentences, and inflectional agreement have been also investigated in relation to dyslexic disorders, showing that these structures are damaged in most of the cases.

The test assessing written Italian (Prove di Valutazione Grammaticale dell'Italiano Scritto) aimed at evaluating M.'s linguistic competence in Italian in both production and comprehension. The suggested range of age for the administration of this test goes from the second year of primary school (approximately 7-year-old children) to the third year of secondary school (approximately 13-year-old adolescents). The test takes into account three main linguistic structures: articles, pronouns and prepositions. In the majority of tasks (the articles task, all the pronouns tasks and the prepositions multiple choice 2 and the production tasks) M.'s performance was lower than secondary school students' performance. In particular in the articles task, in the pronouns and in the prepositions tasks he was even less accurate than primary school pupils. Since pronouns (task 2) involves inferential skills that are acquired only after 8-9 years, and the task on prepositions (Multiple Choice 2) is proved to be the most complex task for children according to normative data, it is possible to say that M.'s performance is still not reasonably adequate to his age. In Pronouns task 3 a remarkable production was recorded and highlighted: in four of twelve productions, he wrote sentences in which the clitic pronoun is not placed in the right position. There are studies on SLI children giving reason to the hypothesis that the production by Italian children with SLI is affected by a limited use of function words such as articles and clitic pronouns (Cipriani et al., 1991; Sabbadini et al., 1987).

Among the non-standardized tests, the repetition task was used to investigate the syntactic ability in different sentence structures. The test included 20 sentences of different length and syntactic difficulty: SVO simple active structures, relative clauses, passive sentences, coordinated

sentences, and left-dislocated sentences. Since the repetition of a sentence in one's mother tongue involves comprehension and production of syntactic structures, any difficulties in repeating the items could be considered a manifestation of comprehension and production difficulties (Friedmann & Novogrodsky, 2007; Friedmann & Grodzinsky, 1997; Friedmann & Lavi, 2006; Lust, Flynn, & Foley, 1998). M.'s performance generally performed 100% correct.

The passive sentence comprehension task by Verin (2010) is a picture matching task. I used it in order to investigate M.'s passives comprehension, which was 98% correct.

In order to investigate M.'s production of passive sentences, I used a picture description task, which included actional and non-actional verbs. According to a quantitative analysis of the responses, M. produced correctly a high percentage of the passive sentences expected. Comparing these results with those provided by Volpato et al. (2013), it emerges that M. masters well passive sentences. It was also interesting to notice that among the different strategies available as an alternative of the passive structure, active sentences containing clitic pronouns are usually employed with this aim by children at the age of 5/5;6. M. used various other strategies but never used clitic pronouns. This can support the hypothesis already mentioned in the discussion of test assessing written Italian, that M.'s difficulties can be ascribed to SLI. Clitic pronouns are proved to be a weak point for him, as for other children with SLI.

Using a picture matching task, I investigated M.'s comprehension of different typologies of relative clauses: ambiguous experimental trials (AMB), unambiguous subject relative clauses (SR), object relative clauses with embedded subject in preverbal position (OR), object relative clauses with embedded subject in post-verbal position (ORp). The results were compared to data provided by Bolognesi (2013) and Cardinaletti & Volpato (2011). Referring to Bolognesi (2013), M.'s 70% of correctness is lower than the 95% of correctness by High school students. M.'s highest scores were recorded in AMBs. Lower scores were recorded for SRs, which were comprehended better than ORs. The most difficult items for M. were ORps. Hence M.'s performance replicated the general pattern of accuracy recorded by Bolognesi (2013) for all groups: AMB>SR>OR>ORp. The asymmetry between ORs and SRs found in M. is attested in literature and mainly explained following Relativized Minimality principle (Rizzi, 1990). It is interesting to notice that in studies on the comprehension of relative clauses in subjects with

atypical language development (such as dyslexic, hearing impaired or SLI subjects) the discrepancy is replicated (Friedmann & Novogrodsky, 2007; Adani et al., 2010; Volpato & Adani, 2009; Volpato, 2010, 2012) .

The difference in comprehension between passives sentences and relative clauses observed in M.'s performance has also been attested in previous studies, such as Cardinaletti & Volpato (2011). They hypothesize subjects with dyslexia have significant difficulties in the interpretation of A'-chains (relative clauses) while A-chains (passive sentences) are preserved. Another possibility proposed by the authors is that long dependencies are compromised because of memory failing. Assuming that their first hypothesis is valid for M.'s case, and considering it as a feature displayed by other subjects with SLI or dyslexia, it is possible to hypothesize that M.'s difficulties may be related to some kind of specific language impairment.

Personal comments

Taking into account the individual assessment of M. as he entered high school, and the individual education plan that the school board modeled on him, I would suggest that his case should be investigated more in the detail. Only after a detailed and specific linguistic assessment, an efficient individual plan can be arranged, possibly employing a professional teacher who knows how to deal with such linguistic deficits. UK legislation about SEN offers a good example of how to create an efficient and broad school support system for students like M.. The peculiarity of the single student's needs is preserved and, at the same time, the organization of his education plan and school activities is ruled following only one simple pattern. The British legislation on SEN is very clear and accessible by everyone who desires it. Responsibilities are well defined and family cooperation is seriously meant as part of the scholastic success of the student. Italian legislation, with all the laws mentioned in chapter 1, apparently preserves the student's personal needs by allowing the single school boards to decide for the student. The family is not even mentioned in the directives, since the school, is considered the only professional authority involved in the case. Actually Italian legislation still does not allow students like M. to be supported in an adequate way.

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APPENDIX A : EXPERIMENTAL ITEMS

PPVT-R - List of experimental items

- | | | |
|-----------------|----------------|-----------------|
| 1. autobus | 26. misurare | 51. verdura |
| 2. mano | 27. gabbia | 52. capsula |
| 3. letto | 28. paracadute | 53. gambo |
| 4. trattore | 29. strappare | 54. umano |
| 5. serpente | 30. quadrato | 55. tuffarsi |
| 6. barca | 31. vaso | 56. gruppo |
| 7. lampada | 32. isolamento | 57. ramoscello |
| 8. tamburo | 33. bacio | 58. barriera |
| 9. freccia | 34. schedare | 59. donnola |
| 10. pinguino | 35. siringa | 60. incatenato |
| 11. penna | 36. vuoto | 61. artiglio |
| 12. incidente | 37. nido | 62. elicottero |
| 13. accarezzare | 38. incollare | 63. medaglione |
| 14. semaforo | 39. riposo | 64. riva |
| 15. ginocchio | 40. mappamondo | 65. bullone |
| 16. tronco | 41. consegnare | 66. disaccordo |
| 17. sbucciare | 42. tubolare | 67. decorato |
| 18. gonfio | 43. cucire | 68. balcone |
| 19. mucca | 44. tamburello | 69. premiare |
| 20. retino | 45. bosco | 70. issare |
| 21. allacciare | 46. vela | 71. affaticato |
| 22. peloso | 47. stirarsi | 72. cerimonia |
| 23. busta | 48. rubinetto | 73. narice |
| 24. catena | 49. spalla | 74. meccanico |
| 25. fasciatura | 50. gomito | 75. rubacchiare |

76. steccato	105.debole	134.entomologo
77. amo	106.rocchetto	135.ardere
78. arnese	107.meditare	136.agrume
79. cascata	108.spettro	137.emissione
80. assopito	109.guarnire	138.emaciato
81. spiegare	110.felino	139.goffrato
82. stupito	111.morsetto	140.calice
83. arciere	112.demolire	141.veicolo
84. guardaroba	113.cornice	142.latta
85. pedale	114.sorpreso	143.penisola
86. corteccia	115.arco	144.perpendicolare
87. dromedario	116.quartetto	145.tangente
88. guardaroba	117.confidare	146.trovatello
89. sezionare	118.ometto	147.esultante
90. pedone	119.esausto	148.indigente
91. carogna	120.commerciale	149.divergenza
92. trasparente	121.calvo	150.antropoide
93. salire	122.traiettoria	151.deambulazione
94. decrepito	123.piramide	152.spatola
95. gocciolare	124.elettrodomestico	153.utensile
96. falegname	125.costringere	154.sferico
97. isola	126.comunicazione	155.esterno
98. delusione	127.bacello	156.consumare
99. grave	128.costellazione	157.rombo
100.zanna	129.inclemente	158.casseruola
101.assalire	130.rampicante	159.fragile
102.indecisione	131.filtraggio	160.rettile
103.abrasivo	132.arido	161.regolabile
104.pneumatico	133.nautico	162.parallelogramma

163.imbottitura
164.cornea
165.rifornire
166.rostro
167.incandescente
168.arrogante
169.convesso
170.torretta
171.obelisco
172.quieto
173.cooperazione
174.collera
175.vitreo

TCGB - List of experimental items

Locative sentences		
1	<i>La palla è sotto il tavolo</i>	The ball is under the table
2	<i>Il gatto è vicino alla sedia</i>	The cat is next to the chair
3	<i>La casa è dietro l'albero</i>	The house is behind the tree
4	<i>Corre giù</i>	He/she/it runs downwards
5	<i>Il cane è dentro la macchina</i>	The dog is inside the car
6	<i>La palla è tra il tavolo e la sedia</i>	The ball is between the table and the chair
7	<i>Il cane corre dalla casa all'albero</i>	The dog runs from the house to the tree
8	<i>Il cane è sopra la sedia</i>	The dog is on the chair
9	<i>Il gatto è lontano dalla sedia</i>	The cat is far from the chair
10	<i>Vola su</i>	It flies upwards
11	<i>Il bambino è fuori</i>	The boy is outside
12	<i>Il bambino è tra il babbo e la mamma</i>	The boy is between dad and mum
13	<i>Il cane è davanti alla cuccia</i>	The dog is in front of the doghouse
14	<i>L'uccellino vola dalla casa al nido</i>	The little bird flies from the house to the nest

Flexive morphology on nominal and verbal items		
15	<i>Sedie</i>	Chairs
16	<i>Bambino</i>	Boy
18	<i>Cane</i>	Dog
19	<i>Camminano</i>	They are walking
21	<i>Maestra</i>	Teacher (woman)
22	<i>Il bambino fa il bagno</i>	The boy is bathing
23	<i>Vola</i>	He/she/it flies
24	<i>Il loro cane</i>	Their dog
27	<i>Il gatto ha saltato</i>	The cat jumped

Flexive morphology on nominal and verbal items

28	<i>La sua mamma</i>	His/her/its mum
30	<i>Il gatto salta</i>	The cat is jumping
33	<i>Il suo cane</i>	His/her/its dog
35	<i>La loro mamma</i>	Their mum
38	<i>Il bambino ha fatto il bagno</i>	The boy bathed
49	<i>Il bambino disegnerà</i>	The boy is going to draw
56	<i>Il bambino farà il bagno</i>	The boy is going to bathe

Active affirmative sentences

17	<i>La mamma lava</i>	Mum is washing
20	<i>La bambina si pettina</i>	The girl is brushing her hair
25	<i>La mamma pettina la bambina</i>	Mum is brushing the girl's hair
29	<i>Il gatto rincorre il cane</i>	The cat is chasing the dog
32	<i>La mamma lava la bambina</i>	Mum is bathing the girl
34	<i>Il bambino imbecca la mamma</i>	The boy is feeding mum
37	<i>Il bambino spinge la bambina</i>	The boy is pushing the girl
42	<i>La macchina tira il camion</i>	The car is pulling the truck
70	<i>La palla colpisce il bambino</i>	The ball hits the boy
75	<i>La carta brucia il bambino</i>	The paper is burning the boy

Active negative sentences

26	<i>Il bambino non dorme</i>	The boy is not sleeping
36	<i>La bambina non corre</i>	The girl is not running
44	<i>Il gatto non mangia il pesce</i>	The cat is not eating the fish
48	<i>Il bambino non mangia la minestra</i>	The boy is not eating the soup
53	<i>La bambina non spinge il bambino</i>	The girl is not pushing the boy
68	<i>Il babbo non bacia la mamma</i>	Dad is not kissing mum

Passive affirmative sentences

40	<i>La macchina è lavata dal bambino</i>	The car is being washed by the boy
47	<i>La mela è mangiata dalla bambina</i>	The apple is being eaten by the girl
52	<i>La bambina è vestita dalla mamma</i>	The girl is being dressed by mum
55	<i>Il cane è tirato dall'uomo</i>	The dog is being pulled by the man
58	<i>Il bambino è spinto dalla bambina</i>	The boy is being pushed by the girl
61	<i>La mamma è presa in braccio dal bambino</i>	Mum is being taken in the boy's arms
65	<i>Il libro è letto dal bambino</i>	The book is being read by the boy
67	<i>La bambina è pettinata dalla mamma</i>	The girl's hair is being brushed by mum
71	<i>Il cane è morso dal bambino</i>	The dog is bitten by the boy
73	<i>Il film è visto dal bambino</i>	The movie is being watched by the boy

Passive negative sentences

57	<i>Il cestino non è stato vuotato</i>	The basket was not emptied
59	<i>Il pianoforte non è suonato</i>	The piano is not being played
62	<i>Il bambino non è spinto dalla bambina</i>	The boy is not being chased by the girl
63	<i>La pipa non è fumata dall'indiano</i>	The pipe is not being smoked by the indian
66	<i>La mela non è presa dalla bambina</i>	The apple is not taken by the girl
76	<i>Il cane non è rincorso dal gatto</i>	The dog is not being chased by the cat

Relative clauses

39	<i>Il bambino che è sul tavolo mangia la marmellata</i>	The boy who is on the table is eating the jam
31	<i>Il bambino rincorre la bambina che è in bicicletta</i>	The boy is chasing the girl who is riding the bicycle
41	<i>Il gatto salta sul topo che è sopra la sedia</i>	The cat jumps on the mouse that is on the chair
45	<i>La guardia che ha il fucile ferma il ladro</i>	The guard who has the rifle stops the thief

Relative clauses

50	<i>Il topo che il gatto rincorre ha il formaggio in bocca</i>	The mouse that the cat is chasing has the cheese in its mouth
60	<i>Il babbo tiene il palloncino che il bambino rompe</i>	Dad is holding the balloon that the boy breaks
69	<i>Il vaso che il bambino dipinge è sulla sedia</i>	The vase that the boy is painting is on the chair
72	<i>Il cane morde la palla che il bambino colpisce</i>	The dog bites the ball that the boy hits

Dative sentences

43	<i>La bambina dà la cartella al bambino</i>	The girl is giving the schoolbag to the boy
46	<i>La rondine porta il verme all'uccellino</i>	The swallow is bringing the worm to the little bird
51	<i>Il bambino porta il gatto al topo</i>	The boy is bringing the cat to the mouse
54	<i>Il babbo porta le sigarette al bambino</i>	Dad is bringing the cigarettes to the boy
64	<i>Il babbo mette le scarpe al bambino</i>	Dad is putting the shoes on the boy's feet
74	<i>Il cane porta il maiale alla pecora</i>	The dog is bringing the pig to the sheep

Repetition task - List of experimental items

1. Le giraffe seguono l'uomo 'Giraffes follow the man'
2. L'autobus è tirato dalla moto 'The bus is pulled by the motorbike'
3. Il cane segue le scimmie che mangiano la banana 'The dog chases the monkeys which eat the banana'
4. Il cigno tira i cavalli 'The swan pulls the horses'
5. I gatti, la bambina li accarezza 'The cats, the girl pets them'
6. L'elefante spinge le tigri e bacia le rane 'The elephant pushes the tigers and kisses the frogs'
7. Il nonno è fermato dai vigili 'Grandpa is stopped by the policemen'
8. La mamma guarda il papà e saluta il nonno 'Mum looks at dad and waves at grandpa'
9. I gatti sono colpiti dal topo 'The cats are hit by the mouse'
10. La mamma bacia la bambina 'Mum kisses the girl'
11. Il pesce spinge l'elefante che il leone rincorre 'The fish pushes the elephant that the lion chases'
12. Il bambino, il latte lo beve al mattino 'The child, the milk, he drinks it in the morning'
13. Le capre lavano le oche e spingono i topi 'The goats wash the geese and push the mice'
14. Le volpi sono portate dai lupi 'The foxes are brought by wolves'
15. L'auto che le moto inseguono corre molto forte 'The car that motorbikes chase rides very fast'
16. I pinguini lavano i cani 'The penguins wash the dogs'
17. La torta, lo zio la mangia a colazione 'The cake, uncle eats it for breakfast'
18. Le nonne che guardano le mucche bevono il te 'Grandmas who look at the cows drink tea'
19. Gli orsi seguono la zebra e mordono il topo 'The bears chase the zebra and bite the mouse'
20. Le scarpe il papà le pulisce ogni giorno 'The shoes, dad cleans them everyday'

Passive sentence comprehension task - List of experimental items

1. In quale foto Marco è spinto da Sara? ‘In which picture Marco is being pushed by Sara?’
2. In quale foto Sara è imboccata? ‘In which picture Sara is being fed?’
3. In quale foto Marco colpisce la sedia? ‘In which picture Marco hits the chair?’
4. In quale foto Marco è visto da Sara? ‘In which picture Marco is seen by Sara?’
5. In quale foto Sara viene presa a calci? ‘In which picture Sara is being kicked?’
6. In quale foto Sara è colpita da Marco? ‘In which picture Sara is hit by Marco?’
7. In quale foto Marco spinge la sedia? ‘In which picture Marco pushes the chair?’
8. In quale foto Marco è sentito? ‘In which picture Marco is heard?’
9. In quale foto Marco viene spinto da Sara? ‘In which picture Marco is being pushed by Sara?’
10. In quale foto Sara viene imboccata? ‘In which picture Sara is being fed?’
11. In quale foto Sara viene amata? ‘In which picture Sara is loved?’
12. In quale foto Marco è annusato? ‘In which picture Marco is smelled?’
13. In quale foto Sara ama l’orsacchiotto? ‘In which picture Sara loves the teddy-bear?’
14. In quale foto Sara viene colpita da Marco? ‘In which picture Sara is hit by Marco?’
15. In quale foto Sara è presa a calci? ‘In which picture Sara is being kicked?’
16. In quale foto Marco viene visto da Sara? ‘In which picture Marco is seen by Sara?’
17. In quale foto Sara è amata da Marco? ‘In which picture Sara is loved by Marco?’
18. In quale foto Marco è spinto? ‘In which picture Marco is being pushed?’
19. In quale foto Sara bacia il cane? ‘In which picture Sara is kissing the dog?’
20. In quale foto Marco è baciato da Sara? ‘In which picture Marco is being kissed by Sara?’
21. In quale foto Marco è visto? ‘In which picture Marco is seen?’
22. In quale foto Sara viene amata da Marco? ‘In which picture Sara is loved by Marco?’
23. In quale foto Sara è inseguita da Marco? ‘In which picture Sara is being chased by Marco?’
24. In quale foto Sara annusa il fiore? ‘In which picture Sara smells the flower?’
25. In quale foto Sara è colpita? ‘In which picture Sara is hit?’
26. In quale foto Marco è sentito da Sara? ‘In which picture Marco is heard by Sara?’
27. In quale foto Marco viene spinto? ‘In which picture Marco is being pushed?’

28. In quale foto Marco insegue la palla? ‘In which picture Marco is chasing the ball?’
29. In quale foto Marco viene baciato da Sara? ‘In which picture Marco is being kissed by Sara?’
30. In quale foto Marco viene annusato? ‘In which picture Marco is smelled?’
31. In quale foto Sara viene colpita? ‘In which picture Sara is hit?’
32. In quale foto Marco sente la radio? ‘In which picture Marco hears the radio?’
33. In quale foto Sara viene inseguita da Marco? ‘In which picture Sara is being chased by Marco?’
34. In quale foto Sara è amata? ‘In which picture Sara is loved?’
35. In quale foto Marco viene visto? ‘In which picture Marco is seen?’
36. In quale foto Sara è imboccata da Marco? ‘In which picture Sara is being fed by Marco?’
37. In quale foto Marco è baciato? ‘In which picture Marco is being kissed?’
38. In quale foto Marco viene sentito? ‘In which picture Marco is heard?’
39. In quale foto Sara imbecca la bambola? ‘In which picture Sara is feeding the doll?’
40. In quale foto Sara è presa a calci da Marco? ‘In which picture Sara is being kicked by Marco?’
41. In quale foto Sara è inseguita? ‘In which picture Sara is being chased?’
42. In quale foto Marco viene sentito da Sara? ‘In which picture Marco is heard by Sara?’
43. In quale foto Sara guarda la palla? ‘In which picture Sara is looking at the ball?’
44. In quale foto Sara viene imboccata da Marco? ‘In which picture Sara is being fed by Marco?’
45. In quale foto Marco viene baciato? ‘In which picture Marco is being kissed?’
46. In quale foto Marco è annusato da Sara? ‘In which picture Marco is smelled by Sara?’
47. In quale foto Marco prende a calci il cuscino? ‘In which picture Marco is kicking the pillow?’
48. In quale foto Sara viene presa a calci da Marco? ‘In which picture Sara is being kicked by Marco?’
49. In quale foto Sara viene inseguita? ‘In which picture Sara is being chased?’
50. In quale foto Marco viene annusato da Sara? ‘In which picture Marco is smelled by Sara?’

Passive sentence production task - List of experimental items

1. **Experimenter:** Nella prima foto Sara spinge Marco. Nella seconda la mamma spinge Marco. Cosa succede a Marco nella prima foto?

Target: Marco è/viene spinto da Sara

Experimenter: ‘In the first picture Sara is pushing Marco. In the second one mum is pushing Marco. What happens to Marco in the first picture?’

Target: ‘Marco is being pushed by Sara’

2. **Experimenter:** Nella prima foto Sara imbecca la mamma. Nella seconda Sara imbecca Marco. Cosa succede a Marco?

Target: Marco è/viene viene imboccato da Sara.

Experimenter: ‘In the first picture Sara is feeding mum. In the second one Sara is feeding Marco. What happens to Marco?’

Target: ‘Marco is being fed (by Sara)’

3. **Experimenter:** Cosa succede nella seconda foto?

Target: Marco spinge la sedia

Experimenter: ‘What happens in the second picture?’

Target: ‘Marco is pushing the chair’

4. **Experimenter:** Nella prima foto Sara vede Marco. Nella seconda il papà vede Marco. Cosa succede a Marco nella prima foto?

Target: Marco è/viene visto da Sara

Experimenter: ‘In the first picture Sara sees Marco. In the second one dad sees Marco. What happens to Marco in the first picture?’

Target: ‘Marco is seen by Sara’

5. **Experimenter:** Nella prima foto Sara prende a calci Marco. Nella seconda Sara prende a calci la mamma. Cosa succede alla mamma?
Target: La mamma è/viene presa a calci (da Sara)
Experimenter: ‘In the first picture Sara is kicking Marco. In the second one Sara is kicking mum. What happens to mum?’
Target: ‘Mum is being kicked (by Sara)’
6. **Experimenter:** Cosa succede nella prima foto?
Target: Sara annusa il fiore
Experimenter: ‘What happens in the first picture?’
Target: ‘Sara smells the flower’
7. **Experimenter:** Nella prima foto Marco colpisce Sara. Nella seconda il papà colpisce Sara. Cosa succede a Sara nella seconda foto?
Target: Sara è/viene colpita dal papà
Experimenter: ‘In the first picture Marco hits Sara. In the second one dad hits Sara. What happens to Sara in the second picture?’
Target: ‘Sara is hit by dad’
8. **Experimenter:** Cosa succede nella seconda foto?
Target: Marco colpisce la sedia
Experimenter: ‘What happens in the second picture?’
Target: ‘Marco hits the chair’
9. **Experimenter:** Nella prima foto Marco sente il papà. Nella seconda Marco sente Sara. Cosa succede a Sara?
Target: Sara è/viene sentita (da Marco)
Experimenter: ‘In the first picture Marco hears dad. In the second one Marco hears Sara. What happens to Sara?’

Target: 'Sara is heard (by Marco)'

10. **Experimenter:** Cosa succede nella terza foto?

Target: Marco prende a calci il cuscino.

Experimenter: 'What happens in the third picture?'

Target: 'Marco is kicking the pillow'

11. **Experimenter:** Nella prima foto Sara bacia Marco. Nella seconda la mamma bacia Marco. Cosa succede a Marco nella prima foto?

Target: Marco è/viene baciato da Sara

Experimenter: 'In the first picture Sara is kissing Marco. In the second one mum is kissing Marco. What happens to Marco in the first picture?'

Target: 'Marco is being kissed by Sara'

12. **Experimenter:** Nella prima foto Sara ama il papà. Nella seconda Sara ama Marco. Cosa succede al papà?

Target: Il papà è/viene amato (da Sara)

Experimenter: 'In the first picture Sara loves dad. In the second one Sara loves Marco. What happens to dad?'

Target: 'Dad is loved (by Sara)'

13. **Experimenter:** Cosa succede a nella seconda foto?

Target: Marco sente la radio

Experimenter: 'What happens in the second picture?'

Target: 'Marco hears the radio'

14. **Experimenter:** Nella prima foto Marco spinge Sara. Nella seconda Marco spinge la mamma . Cosa succede alla mamma?

Target: La mamma viene spinta (da Marco)

- Experimenter:** ‘In the first picture Marco is pushing Sara. In the second one Marco is pushing mum. What happens to mum?’
Target: ‘Mum is being pushed (by Marco)’
15. **Experimenter:** Nella prima foto Marco insegue Sara. Nella seconda la mamma insegue Sara. Cosa succede a Sara nella seconda foto?
Target: è/viene
Experimenter: ‘In the first picture Marco is chasing Sara. In the second one mum is chasing Sara. What happens to Sara in the second picture?’
Target: ‘Sara is being chased by mum’
16. **Experimenter:** Cosa succede nella prima foto?
Target: Sara bacia il cane
Experimenter: ‘What happens in the first picture?’
Target: ‘Sara is kissing the dog’
17. **Experimenter:** Nella prima foto Marco ama Sara. Nella seconda il papà ama Sara. Cosa succede a Sara nella prima foto?
Target: Sara è/viene amata da Marco
Experimenter: ‘In the first picture Marco loves Sara. In the second one dad loves Sara. What happens to Sara in the first picture?’
Target: ‘Sara is loved by Marco’
18. **Experimenter:** Nella prima foto Marco vede la mamma. Nella seconda Marco vede Sara. Cosa succede a Sara?
Target: Sara è/viene vista (da Marco)
Experimenter: ‘In the first picture Marco sees mum. In the second one Marco sees Sara. What happens to Sara?’
Target: ‘Sara is seen (by Marco)’

19. **Experimenter:** Cosa succede nella prima foto?
Target: Sara imbocca la bambola
Experimenter: ‘What happens in the first picture?’
Target: ‘Sara is feeding the doll’
20. **Experimenter:** Nella prima foto Sara colpisce il papà. Nella seconda Sara colpisce Marco. Cosa succede a Marco?
Target: Marco è/viene colpito (da Sara)
Experimenter: ‘In the first picture Sara hits dad. In the second one Sara hits Marco. What happens to Marco?’
Target: ‘Marco is hit (by Sara)’
21. **Experimenter:** Nella prima foto il papà sente Marco. Nella seconda Sara sente Marco. Cosa succede a Marco nella prima foto?
Target: Marco è/viene sentito dal papà
Experimenter: ‘In the first picture dad hears Marco. In the second one Sara hears Marco. What happens to Marco in the first picture?’
Target: ‘Marco is heard by dad’
22. **Experimenter:** Nella prima foto Marco annusa Sara. Nella seconda Marco sente il papà. Cosa succede al papà?
Target: Il papà è/viene sentito (da Marco)
Experimenter: ‘In the first picture Marco smells Sara. In the second one Marco hears dad. What happens to dad?’
Target: ‘Dad is heard (by Marco)’
23. **Experimenter:** Cosa succede nella seconda foto?
Target: Sara vede la palla
Experimenter: ‘What happens in the second picture?’

Target: 'Sara sees the ball'

24. **Experimenter:** Cosa succede nella seconda foto?

Target: Marco prende a calci la palla

Experimenter: 'What happens in the second picture?'

Target: 'Marco is kicking the ball'

25. **Experimenter:** Nella prima foto il papà imbecca Sara. Nella seconda Marco imbecca Sara. Cosa succede a Sara nella seconda foto?

Target: Sara è/viene imboccata da Marco

Experimenter: 'In the first picture dad is feeding Sara. In the second one Marco is feeding Sara. What happens to Sara in the second picture?'

Target: 'Sara is being fed by Marco'

26. **Experimenter:** Nella prima foto Marco bacia il papà. Nella seconda Marco bacia Sara. Cosa succede a Sara?

Target: Sara è/viene baciata (da Marco)

Experimenter: 'In the first picture Marco is kissing dad. In the second one Marco is kissing Sara. What happens to Sara?'

Target: 'Sara is being kissed (by Marco)'

27. **Experimenter:** Cosa succede nella terza foto?

Target: Marco sente la radio

Experimenter: 'What happens in the third picture?'

Target: 'Marco hears the radio'

28. **Experimenter:** Nella prima foto Sara vede Marco. Nella seconda il papà vede Marco. Cosa succede a Marco nella seconda foto?

Target: Marco è/viene visto dal papà

- Experimenter:** ‘In the first picture Sara sees Marco. In the second one dad sees Marco. What happens to Marco in the second picture?’
Target: ‘Marco is seen by dad’
29. **Experimenter:** Nella prima foto Sara ama il papà. Nella seconda Sara ama Marco. Cosa succede al papà?
Target: Il papà è/viene amato (da Sara)
Experimenter: ‘In the first picture Sara loves dad. In the second one Sara loves Marco. What happens to dad?’
Target: ‘Dad is loved (by Sara)’
30. **Experimenter:** Cosa succede nella prima foto?
Target: Sara annusa il fiore
Experimenter: ‘What happens in the first picture?’
Target: ‘Sara smells the flower’
31. **Experimenter:** Nella prima foto il papà sente Marco. Nella seconda Sara annusa Marco. Cosa succede a Marco nella seconda foto?
Target: Marco è/viene annusato (da Sara)
Experimenter: ‘In the first picture dad hears Marco. In the second one Sara smells Marco. What happens to Marco in the second picture?’
Target: ‘Marco is smelled (by Sara)’
32. **Experimenter:** Nella prima foto Marco prende a calci Sara. Nella seconda la mamma prende a calci Sara. Cosa succede a Sara nella seconda foto?
Target: Sara è/viene presa a calci dalla mamma
Experimenter: ‘In the first picture Marco is kicking Sara. In the second one mum is kicking Sara. What happens to Sara in the second picture?’
Target: ‘Sara is being kicked by mum’

33. **Experimenter:** Nella prima foto Marco sente il papà. Nella seconda Marco sente Sara.
Cosa succede al papà?
Target: Il papà è/viene sentito (da Marco)
Experimenter: ‘In the first picture Marco hears dad. In the second one Marco hears Sara.
What happens to dad?’
Target: ‘Dad is heard (by Marco)’
34. **Experimenter:** Nella prima foto Sara insegue la mamma. Nella seconda Sara insegue
Marco. Cosa succede alla mamma?
Target: La mamma è/viene inseguita (da Sara)
Experimenter: ‘In the first picture Sara is chasing mum. In the second one Sara is
chasing Marco. What happens to mum?’
Target: ‘Mum is being chased (by Sara)’
35. **Experimenter:** Nella prima foto Marco annusa Sara. Nella seconda Marco sente il papà.
Cosa succede a Sara?
Target: Sara è/viene annusata (da Marco)
Experimenter: ‘In the first picture Marco smells Sara. In the second one Marco hears
dad. What happens to Sara?’
Target: ‘Sara is smelled (by Marco)’
36. **Experimenter:** Cosa succede nella terza foto?
Target: Sara ama l’orsacchiotto
Experimenter: ‘What happens in the third picture?’
Target: ‘Sara loves the teddy-bear’

Relative clause comprehension task - List of experimental items

TOCCA 'TOUCH'

AMB SVO_SG_SG La pecora che lava il cavallo 'The sheep that washes the horse' (n°1)

AMB SVO_SG_SG Il cammello che pettina il cigno 'The camel that brushes the swan' (n°12)

AMB SVO_SG_SG La moto che segue la macchina 'The motorbike that follows the car' (n°34)

AMB SVO_SG_SG La giraffa che tocca il coniglio 'The giraffe that touches the rabbit' (n°48)

AMB SVO_SG_SG Il cane che spaventa il coniglio 'The dog that scares the rabbit' (n°54)

AMB SVO_SG_SG L'orso che saluta la tartaruga 'The bear that greets the turtle'(n°71)

AMB SVO_PL_PL I pesci che tirano i pinguini 'The fishes that pull the penguins' (n°6)

AMB SVO_PL_PL I topi che spingono le galline 'The mice that push the chickens'(n°30)

AMB SVO_PL_PL I gattini che guardano le capre 'The kittens that look at the goats' (n°41)

AMB SVO_PL_PL Le galline che portano i lupi 'The chickens that bring the wolves' (n°43)

AMB SVO_PL_PL Gli asini che lavano gli orsi 'The donkeys that wash the bears' (n°61)

AMB SVO_PL_PL Le macchine che tirano i camion 'The cars that pull the tracks' (n°78)

SR SVO_SG_PL Il coniglio che colpisce i topi 'The rabbit that hits the mice' (n°14)

SR SVO_SG_PL Il pesce che segue le tartarughe 'The fish that follows the turtles' (n°25)

SR SVO_SG_PL Il cavallo che insegue i leoni 'The horse that follows the lions'(n°39)

SR SVO_SG_PL La giraffa che pettina gli orsi 'The giraffe that brushes the bears'(n°46)

SR SVO_SG_PL Il bambino che lava le bambine 'The boy that washes the girls' (n°68)

SR SVO_SG_PL La pecora che colpisce i gatti 'The sheep that hits the cats' (n°79)

SR SVO_PL_SG I leoni che guardano l'elefante 'The lions that look at the elephant' (n°3)

SR SVO_PL_SG Le scimmie che fermano il pinguino 'The monkeys that stop the penguin' (n°10)

SR SVO_PL_SG I cani che toccano il ragazzo 'The dogs that touch the boy' (n°16)

SR SVO_PL_SG Le tigri che mordono il cavallo 'The tigers that bite the horse' (n°37)

SR SVO_PL_SG I pinguini che lavano il nonno 'The penguins that wash grandfather' (n°63)

SR SVO_PL_SG Le zebre che tirano la giraffa 'The zebras that follow the giraffe' (n°73)

OR OSV_SG_SG La gallina che il pulcino becca 'The chicken that the chick bites' (n°2)

OR OSV_SG_SG L'elefante che l'uccellino porta 'The elephant that the little bird brings' (n°18)

OR OSV_SG_SG La lepre che la giraffa saluta 'The rabbit that the giraffe greets' (n°26)

OR OSV_SG_SG Il bambino che la nonna pettina 'The boy that grandmother brushes' (n°42)

OR OSV_SG_SG Il leone che la tartaruga tira 'The lion that the turtle pulls' (n°52)

OR OSV_SG_SG L'elefante che la scimmia insegue 'The elephant that the monkey follows' (n°62)

OR OVS_PL_PL Le moto che le macchine spingono 'The motorbikes that the cows push' (n°20)

OR OVS_PL_PL Le oche che i pinguini fermano 'The geese that the penguins stop' (n°32)

OR OVS_PL_PL Gli asini che i cani lavano 'The donkeys that the dogs wash' (n°51)

OR OVS_PL_PL Le mucche che i cammelli tirano 'The cows that the camels pull' (n°57)

OR OVS_PL_PL I serpenti che le tigri guardano 'The snakes that the tigers look at' (n°65)

OR OVS_PL_PL Le rane che le ragazze seguono 'The frogs that the girls follow' (n°76)

OR OSV_SG_PL Il pinguino che i gatti guardano 'The penguin that the cats look at' (n°5)

OR OSV_SG_PL Il nonno che i pinguini lavano 'The grandfather that the penguins wash' (n°13)

OR OSV_SG_PL La giraffa che le zebre tirano 'The giraffe that the zebras pull' (n°24)

OR OSV_SG_PL Il ragazzo che i cani toccano 'The boy that the dogs touch' (n°44)

OR OSV_SG_PL Il pinguino che le scimmie fermano 'The penguin that the monkeys stop' (n°60)

OR OSV_SG_PL Il cavallo che le tigri mordono 'The horse that the tigers bite' (n°75)

OR OSV_PL_SG Le scimmie che l'elefante insegue 'The monkeys that the elephant follows' (n°17)

OR OSV_PL_SG Le tartarughe che l'orso saluta 'The turtles that the bear greets' (n°29)

OR OSV_PL_SG Le bambine che il bambino lava 'The girls that the boy washes' (n°38)

OR OSV_PL_SG I gatti che la pecora colpisce ‘The cats that the sheep hits’ (n°7)

OR OSV_PL_SG I leoni che l'elefante guarda ‘The lions that the elephant looks at’ (n°69)

OR OSV_PL_SG Gli orsi che la giraffa pettina ‘The bears that the giraffe brushes’ (n°80)

ORp OVS_SG_PL La pecora che tirano le scimmie ‘The sheep that pull the monkeys’ (n°21)

ORp OVS_SG_PL Il cammello che lavano gli orsi ‘The camel that wash the bears’ (n°27)

ORp OVS_SG_PL L'uccellino che guardano i cani ‘The little bird that look the dogs at’ (n°33)

ORp OVS_SG_PL Il cigno che beccano i pulcini ‘The swan that peck the chicks’ (n°47)

ORp OVS_SG_PL La macchina che seguono i camion ‘The car that follow the tracks’ (n°58)

ORp OVS_SG_PL La tigre che baciano le bambine ‘The tiger that kiss the girls’ (n°72)

ORp OVS_PL_SG I conigli che tira la gallina ‘The rabbits that pulls the chicken’ (n°9)

ORp OVS_PL_SG I nonni che tocca la tartaruga ‘The grandfathers that touches the turtle’ (n°23)

ORp OVS_PL_SG Le ragazze che ferma il vigile ‘The girls that stops the policeman’ (n°36)

ORp OVS_PL_SG I bambini che insegue il cavallo ‘The children that follows the horse’ (n°50)

ORp OVS_PL_SG I gattini che guarda il pinguino ‘The kittens that looks the penguin at’ (n°56)

ORp OVS_PL_SG Le pecore che colpisce la gallina ‘The sheep (pl.) that hits the chicken’ (n°66)

F SVO Il cane che ha l'osso in bocca ‘The dog that has the bone in his mouth’ (n°4)

F SVO Il topo che legge un libro ‘The mouse that reads a book’ (n°8)

F SVO La bambina che corre in bicicletta ‘The girl that rides her bicycle’ (n°11)

F SVO Il nonno che guarda la televisione ‘The grandfather that watches the television’ (n°15)

F SVO La scimmia che è in acqua ‘The monkey that is in the water’ (n°19)

F SVO Il gatto che suona la chitarra ‘The cat that plays the guitar’ (n°22)

F SVO L'elefante che piange ‘The elephant that cries’ (n°28)

F SVO Il leone che gioca con la palla ‘The lion that plays with the ball’ (n°31)

F SVO La mucca che suona la tromba ‘The cow that plays the trumpet’ (n°35)

F SVO Il bambino che fa il bagno ‘The boy that bathes’ (n°40)

F SVO La bambina che salta la corda ‘The girl that jumps over the rope’ (n°45)

F SVO La rana che salta 'The frog that jumps' (n°49)

F SVO Il coniglio che legge 'The rabbit that reads' (n°53)

F SVO La capra che mangia il gelato 'The goat that eats the ice-cream' (n°55)

F SVO Il coniglio che beve 'The rabbit that drinks' (n°59)

F SVO Il bambino che dorme 'The boy that sleeps' (n°64)

F SVO Il papà che scrive 'The dad that writes' (n°67)

F SVO La zebra che balla 'The zebra that dances' (n°70)

F SVO La bambina che tiene il palloncino 'The girl that carries the balloon' (n°74)

F SVO Il bambino che ha il cane 'The child that has got the dog' (n°77)

APPENDIX B: PRODUCTIONS AND RESULTS OF THE TESTS

Passive sentence production task - M. 's production

1. **Target:** *(Marco) è/viene spinto da Sara* ('Marco is being pushed by Sara')
 Production: *Viene spinto da Sara* ('He is being pushed by Sara')
 CORRECT

2. **Target :** *(Marco) è/viene imboccato da Sara* ('Marco is being fed by Sara')
 Production: *Viene imboccato da Sara* ('He is being fed by Sara')
 CORRECT

3. **Target:** *(Marco) spinge la sedia* ('Marco is pushing the chair')
 Production: *Marco spinge la sedia* ('Marco is pushing the chair')
 CORRECT

4. **Target:** *(Marco) è/viene visto da Sara* ('Marco is seen by Sara')
 Production: *Viene visto da Sara* ('He is seen by Sara')
 CORRECT

5. **Target:** *(La mamma) è/viene presa a calci da Sara* ('Mum is being kicked by Sara')
 Production: *Viene presa a calci dalla Sara* ('She is being kicked by Sara')
 CORRECT*

6. **Target:** *Sara annusa il fiore* ('Sara smells the flower')
 Production: *Sara annusa il fiore* ('Sara smells the flower')
 CORRECT

7. **Target:** *(Sara) è/viene colpita dal papà* ('Sara is being hit by dad')
Production: *Viene colpita dal papà* ('She is hit by dad')
CORRECT
8. **Target:** *Marco colpisce la sedia* ('Marco is hitting the chair')
Production: *La sedia viene colpita da Marco* ('The chair is being hit by Marco')
CORRECT
(UNEXPECTED PASSIVIZATION)
9. **Target:** *(Sara) è/viene sentita da Marco* ('Sara is heard by Marco')
Production: *Parla a Marco* ('She speaks to Marco')
OTHER STRATEGY (ACTIVE)
10. **Target:** *Marco prende a calci il cuscino* ('Marco is kicking the pillow')
Production: *Marco prende a calci il cuscino* ('Marco is kicking the pillow')
CORRECT
11. **Target:** *(Marco) è/viene baciato da Sara* ('Marco is being kissed by Sara')
Production: *Viene baciato da Sara* ('He is being kissed by Sara')
CORRECT
12. **Target:** *(Il papà) è/viene amato da Sara* ('Dad is loved by Sara')
Production: *Viene amato dalla Sara* ('He is loved by Sara')
*CORRECT**
13. **Target:** *Marco ascolta la radio* ('Marco is listening to the radio')
Production: *Marco ascolta la radio* ('Marco is listening to the radio')
CORRECT

14. **Target:** *(La mamma) è/viene spinta da Marco* ('Mum is being pushed by Marco')
Production: *Viene spinto da Marco* ('He is being pushed by Marco')
CORRECT
WRONG GENDER AGREEMENT between VERB-PATIENT
15. **Target:** *(Sara) è/viene inseguita dalla mamma* ('Sara is being chased by mum')
Production: *Viene inseguita dalla mamma* ('She is being chased by mum')
CORRECT
16. **Target:** *Sara bacia il cane* ('Sara is kissing the dog')
Production: *La Sara bacia il cane* ('Sara is kissing the dog')
*CORRECT**
17. **Target:** *(Sara) è/viene amata da Marco* ('Sara is loved by Marco')
Production: *Viene abbracciata da Marco* ('She is hugged by Marco')
OTHER STRATEGY
18. **Target:** *(Sara) è/viene vista da Marco* ('Sara is seen by Marco')
Production: *Viene vista da Marco* ('She is seen by Marco')
CORRECT
19. **Target:** *Sara imbecca la mamma* ('Sara is feeding mum')
Production: *Sara imbecca la mamma* ('Sara is feeding mum')
CORRECT
20. **Target:** *(Marco) è/viene colpito da Sara* ('Marco is being hit by Sara')
Production: *Viene colpito dalla Sara* ('He is being hit by Sara')
*CORRECT**

21. **Target:** *(Marco) è/viene sentito dal papà* ('Marco is heard by dad')
Production: *Viene sentito dal papà* ('He is heard by dad')
CORRECT
22. **Target:** *(Il papà) è/viene sentito da Marco* ('Dad is heard by Marco')
Production: *Viene...Viene sentito da Marco* ('He is...is heard by Marco')
CORRECT
(HESITATION)
23. **Target:** *Sara vede la palla* ('Sara sees the ball')
Production: *Sara guarda la palla. Eeh!..vede la palla* ('Sara looks at the ball.
Eeh!..sees the ball')
CORRECT
(HESITATION)
24. **Target:** *Marco prende a calci il pallone* ('Marco is kicking the ball')
Production: *Marco prende a calci il pallone* ('Marco is kicking the ball')
CORRECT
25. **Target:** *(Sara) è/viene imboccata da Marco* ('Sara is being fed by Marco')
Production: *Viene imboccata da Marco* ('She is being fed by Marco')
CORRECT
26. **Target:** *(Sara) è/viene baciata da Marco* ('Sara is being kissed by Marco')
Production: *Viene baciata da Marco* ('She is being kissed by Marco')
CORRECT
27. **Target:** *Marco sente la radio* ('Marco hears the radio')
Production: *Marco ascolta la radio* ('Marco is listening to the radio')

CORRECT

(DIFFERENT VERB)

28. **Target:** *(Marco) è/viene visto dal papà* ('Marco is seen by dad')

Production: *Viene visto dal papà* ('He is seen by dad')

CORRECT

29. **Target:** *(Il papà) è/viene amato da Sara* ('Dad is loved by Sara')

Production: *Viene amato dalla Sara* ('He is loved by Sara')

*CORRECT**

30. **Target:** *Sara annusa il fiore* ('Sara smells the flower')

Production: *Sara annusa il fiore* ('Sara smells the flower')

CORRECT

31. **Target:** *(Marco) è/viene annusato da Sara* ('Marco is smelled by Sara')

Production: *Viene annusata dalla Sara...eh, annusato dalla Sara* ('She is smelled by Sara...eh! He is smelled by Sara')

*CORRECT **

PROBLEMS GENDER AGREEMENT between VERB-PATIENT

32. **Target:** *(Sara) è/viene presa a calci dalla mamma* ('Sara is being kicked by mum')

Production: *Viene presa a calci dalla mamma* ('She is being kicked by mum')

CORRECT

33. **Target:** *(Il papà) è/viene sentito da Marco* ('Dad is heard by Marco')

Production: *Viene sentito da Marco* ('He is heard by Marco')

CORRECT

34. **Target:** *(La mamma) è/viene inseguita da Sara* ('Mum is being chased by Sara')
Production: *Viene seguita dalla Sara* ('She is being chased by Sara')
*CORRECT**
(DIFFERENT VERB)
35. **Target:** *(Sara) è/viene annusata da Marco* ('Sara is smelled by Marco')
Production: *Viene annusata da Marco* ('She is smelled by Marco')
CORRECT
36. **Target:** *Sara ama il peluches* ('Sara loves the puppet')
Production: *Sara abbraccia il peluches* ('Sara is hugging the puppet')
CORRECT
(DIFFERENT VERB)