

Concluding Discussion

"While disagreements abound and many questions are still unanswered, the study of language breakdown is fulfilling its promise in serving as a natural laboratory in which linguistic theories may be tested"

(Levy and Cave, 1999:138)

7.1. Back to the original questions

At the beginning of this thesis I set out to explore in more detail than in previous studies whether individuals with WS show superior linguistic abilities in comparison to their non-verbal cognitive functioning, i.e. what is the profile of language abilities across measures of vocabulary, morphology, syntax, conversational abilities and narrative discourse. The second aim was to

investigate whether the individuals with WS show the opposite profile to that of individuals with SLI, as has been claimed extensively in the literature (see literature review in Chapter 2). And the third aim of the present research study was to address the question of whether WS offers support for modular views of language, which has been a highly controversial and a strongly debated issue, particularly over the past two decades. These research questions arose from some of the conflicting results which currently dominate the research on WS. As discussed in Chapter 2, there has been a lot of controversy with regard to how 'superior' the linguistic abilities of individuals with WS are, and whether this population offers evidence for the modularity of mind. What has not been clarified in the research so far is whether the discrepancies between the findings of different studies reflect genuine differences between different individuals within the WS population, or whether they result from other factors, such as the nature of particular methodological approaches, the age of the population studied, and the assumed theoretical background.

In order to reduce the effect of some of these confounding factors, the present study combined the single case study approach with within group comparisons. This was done in order to avoid the situation where the mean group performance does not reflect any of the individual participants' performance. In order to alleviate the disadvantage of using a single method, which may only be sensitive to one aspect of linguistic functioning, the present study combined a variety of procedures, i.e. a number of standardised expressive and receptive language measures which tapped vocabulary and morpho-syntax, a conversational analysis procedure involving a framework of categories for analysing the exchange structure, turn taking and information transfer abilities in semi structured conversational interactions, with a special emphasis on conversational inadequacy; and a narrative discourse procedure, which allowed for a detailed analysis of macro and micro structure of the children's narratives.

Secondly, in order to avoid the situation where there is a wide age-range among participants, some of whom are still in the process of going through the main stages of language acquisition, the participants selected for the present study were children whose ages were close to each other and they were all at an age when the major milestones for language acquisition should have been achieved (7:06 – 12:00).

Thirdly, in order to avoid the bias which may result if a certain theoretical framework is being assumed, the present research study did not start with any a priori hypotheses or theoretical assumptions. This allows one to remain sensitive to the data and record happenings without first having them filtered through and squared with pre-existing hypotheses and biases.

Each of the research questions mentioned above will be considered in light of the results obtained from the analysis of the WS and SLI case series. Any exceptional cases will be discussed separately. The clinical implications of the study will also be considered briefly, and directions for future research will be discussed in the final section.

7.2. Do individuals with WS present with superior verbal abilities?

The results from the present research suggest that most individuals with WS do not have superior verbal abilities. However some individuals with WS may have verbal abilities superior to their non-verbal abilities, which in the present study seems to be the exception rather than the rule and will therefore be discussed separately as an exceptional case. As indicated in Chapter 6, and as it has become obvious from the individual case studies presented in Chapter 4, the WS participants' performance on standardized verbal tests was very inconsistent, with most of their scores falling well below what would be expected from their chronological age, and some of their scores falling as low as 3SDs below the mean, thus often being no different at all from their non-verbal scores. Admittedly, there was one case where the performance on some aspects of verbal functioning exceeded 2SDs above the mean and this case will be discussed separately in the *Exceptional Cases* section below but the other four individuals with WS showed similar performance on both the non-verbal and the verbal standardized tests.

Performance on standardised tests revealed that some individuals with WS have relatively good receptive vocabulary skills. Three out of the five participants with WS scored between one and two SDs below what would be expected for their chronological age, however two of the participants with WS

did have age appropriate score on the BPVS. This suggests that not all the individuals with WS have 'relatively' good vocabulary skills as has often been claimed (Bellugi et al., 1988, 1990, 1994), however it must be noted that there was a trend in the present study for receptive vocabulary to be relatively better than other abilities. The post hoc Wilcoxon comparisons indicated a statistical significance between the WS participants' performance on the BPVS and their performance on the Picture Arrangement, Block Design and Formulated Sentences tasks. This means that although their receptive vocabulary skills may not always be age appropriate, they seem to be, on average, better than some aspects of their visuo-spatial skills (tested by the Block Design), sequential thinking skills (tested by the Picture Arrangement task) and syntactic abilities (Formulated Sentences). Such findings are in line with what had already been reported by Grant et al., (1997); Rossen et al., (1996)., Karmiloff-Smith et al., (1997), that the vocabulary scores of individuals with WS outstrip their performance on syntactic and non-verbal tasks.

Four out of the five participants with WS scored below what would be expected for their chronological age on the TROG, the results ranging between one and three SDs below the norm for their chronological age. Problems were revealed in various areas of morpho-syntax, i.e. with their understanding of passives, subject relative and object relative clauses, sentence embedding, prepositions, comparatives. Such results do not confirm Bellugi et al.'s (1994, 2000); and Clahsen and Almazan's, (1998) claims that individuals with WS are able to comprehend complex grammatical structures. However the results from the present study support the findings by Karmiloff-Smith et al., (1997) who argued that WS individuals' scores on the TROG were similar to their scores on the Ravens Colored Matrices. As with the BPVS, the post hoc Wilcoxon comparisons revealed that the WS individuals' performance on the TROG was significantly better than the Picture Arrangement and the Block Design, but still much lower than what would be considered age-appropriate performance.

Further evidence that the linguistic abilities of individuals with WS may not be even 'relatively preserved' as many studies claim (Bellugi et al., 1988, 1990, 2000; Udwin and Yule, 1991; Udwin et al., 1986; Wang and Bellugi, 1994; Wang et al., 1995) comes from their performance on the three subtests of the CELF-E. All participants with WS in the present cohort had problems with the

expressive subpart of the CELF, which consists of three tasks: formulated sentences, sentence recalling, and Sentence Assembly tasks¹. Even the child whose overall linguistic profile was very good and will be discussed in more detail below, had problems with one of the tasks from the CELF-E battery, namely with the Formulated Sentences task. In fact, all five participants with WS had severe difficulties with the Formulated Sentences task, which requires the individual to form a sentence with a given word, typically a function word (a subordinator, a coordinator or a combination of both). The results showed scores which fell at least one SD below the mean, and some participants' score was as low as three SDs below the mean. One participant (DW) was not able to perform the task at all. It could be argued that the low scores resulted, at least partially, from lack of knowledge of the meaning of some of the words with which they were supposed to form sentences and this possibility should not be excluded. It would be interesting to investigate further whether individuals with WS could understand the meaning of words such as when, after, before, or, although, etc. Another reason why all the individuals with WS scored very low on this task may be the fact that the task was not testing only syntactic processing, but also the ability to be creative with language, the ability to employ world knowledge, sequential thinking abilities, all of which may be impaired in individuals with WS. Perhaps in future research, tasks of this kind should be more specific, which raises the issue of what standardized language tests are actually testing and how valid they are. However for the time being, the findings of extremely low scores indicate severe syntactic deficits, which suggest impaired abilities with syntactic production. Such findings support the arguments put forward by Karmiloff-Smith, et al., (1997), that the syntactic abilities in individuals with WS were impaired.

The linguistic problems in the WS phenotype do not only appear in the domain of syntax, but may also appear in the domain of morphology. Serious problems with inflectional and derivational morphology were evident in the case of DW (Case Study 2), whose performance was mixed in that she was able to correctly produce the past tense forms of three irregular verbs, one 3rd person

¹ Note that for children younger than age 8, the equivalent of this task is Word Structure. This test was carried out with the youngest participant with WS (MW), and also with another participant with WS (DW) who was unable to comprehend and consequently do the Sentence Assembly task.

singular verb and one complex verb form consisting of an auxiliary and a present participle, and had no problems with pronouns and possessives, but was very inconsistent with inflectional and derivational morphology, sometimes producing the forms correctly and sometimes either omitting the necessary suffixes or using them incorrectly. Such a profile contradicts Clahsen and Almazan's (1998, 2001) proposal that the WS profile manifests a spared ability for the rule based computational component of language and an impaired associative memory ability for irregular forms, as it seemed that the irregular forms were the ones with which this subject did not have difficulties.

Another important finding of the present study was that the performance of the participants with WS on the British Picture Vocabulary Scales was significantly better than the performance on the Formulated Sentences subpart of the CELF-E. It may be tempting to interpret such a finding as a *dissociation* between the associative memory system responsible for the learning of vocabulary, and the computational system responsible for grammar, as Clahsen and Almazan, (1998, 2001), or Pinker (1994,1999) would suggest. However, in the present study, the vocabulary scores were on average better than the scores obtained on the syntax task, which is the opposite of Clahsen and Almazan's (1998, 2001) claims. Given that the present study investigated the morpho-syntactic abilities in WS differently and in more detail than Clahsen and Almazan (1998; 2001), who support their claims by relying on only specific tasks, any claims of the type 'clear dissociations' between two skills should be approached with utmost caution. The sole fact that there was a statistically significant difference in performance on two different tasks (one involving vocabulary and one grammar) does not automatically mean that there is a dissociation of two general skills (knowledge of vocabulary or syntactic abilities) in the human mind. Several aspects of vocabulary abilities and grammatical abilities will need to be taken into consideration before any claims of a dissociation between the two can be made.

The Bus Story revealed serious difficulties with integrating information and using grammar in context, though it has been claimed that individuals with WS are good story tellers (Reilly, Klima and Bellugi, 1990; Jones et al., 2000). The participants in the present study were generally very poor on the content, i.e. information, scoring well below their chronological age, whereas their scores

were variable with regard to sentence length and the number of subordinate clauses used. This suggests that integrating information in a coherent discourse is not a particular strength among individuals with WS, given that in narrative production there is an interplay between linguistic and cognitive factors (Berman and Slobin, 1994).

As already mentioned, there have not been any studies which have investigated what the reason is for the 'oddity' of the conversational behavior of individuals with WS, though several studies have mentioned that speech in WS is 'odd' (Vicari et al, 1996). The present research study addressed this question and the conversational analysis revealed problems with several pragmatic categories: ignoring initiation while still remaining on the topic, failure to interpret literal or inferential meaning, and world knowledge. However the most salient difficulty was the quantity of information provided by the participants with WS in spontaneous conversations. In general, the participants with WS provided fewer contributions to the ongoing conversation in comparison to their SLI counterparts, though the differences between the two groups were not significant. The participants with WS also demonstrated a strong tendency to provide less information than expected for the conversational situation, which meant that there was considerable pressure put on the interlocutor to keep asking further questions in order to prevent the conversation from breaking down. They also produced significantly fewer continuations in comparison to the participants with SLI, i.e. the participants with WS hardly ever provided any further information about the topic of conversation beyond one conversational turn. This discovery complements well the previous finding that the individuals with WS have difficulties with providing appropriate information as required by the particular conversational situation. On the other hand, the participants in the present study showed no difficulties with topic maintenance, turn taking and maintaining eye contact during the dyadic conversation. Such a finding contradicts previous claims (Rondal, 2001, whose comments are based on a conference presentation by Volterra, Capirci, Pezzini et al., 1994) that children with WS have problems with topic maintenance, turn taking and maintaining eye contact in dyadic conversations. However the published version of the referred conference presentation (Volterra, Capirci, Pezzini et al., 1994) apart from acknowledging the fact that conversational abilities of WS are 'odd' does not provide any further

details as to the specific nature of their conversational abilities and on what grounds the specific comments are being made. The present study however investigated the conversational abilities in WS more systematically than the study Rondal (2001) refers to. In the present study the analysis included a carefully elaborated framework which specifically focused on exchange structure, turn taking, information transfer and conversational inadequacy and it was shown that the participants with WS in the present study, though having problems with the quantity and quality of information they provided for the interlocutor, had no obvious difficulties with topic maintenance, and definitely not with turn taking and maintaining eye-contact, which contradicts Rondal's (2001) comments, but at the same time provides a more informative picture as to the pragmatics in WS.

A rather interesting observation, resulting from the analyses presented in Chapter 6, was the fact that the conversational behavior of the individuals with WS was remarkably consistent among participants, and that it was not affected in any significant way by the individual level of vocabulary or morpho-syntactic abilities.

The finding that individuals with WS were very limited as to what they could contribute to the conversational situation is similar to what has been reported about the frequently cited case study of Laura (Yamada, 1990), whose speech though grammatically well formed, lacked appropriate information and often did not make sense.

These findings regarding the conversational abilities in WS suggest four main points:

- individuals with WS communicate for the sake of communicating, rather than in order to exchange information;
- their speech is heavily 'parasitic' on the interlocutor's contributions;
- their conversational behavior does not depend on their level of morpho-syntactic or vocabulary skills.
- they seem to have no difficulties with topic maintenance, turn taking or with maintaining eye contact, and their speech is hardly ever socially inappropriate.

These observations suggest that conversational abilities in WS are not that preserved as some have argued (Wang and Bellugi, 1994), however there appear to be some strengths and weaknesses in this domain, which need to be explored further. For example, the present study, due to time constraints, only recorded the conversational behavior of individuals with WS in interactions with the researcher. It would be interesting to investigate in future how they 'talk' to their parents or caregivers, siblings, and peers, in order to refine the analysis.

The narrative discourse analysis revealed similar findings to what the standardized tests and the conversational analysis already suggested, and that is that the participants with WS perform very poorly when cognitive skills other than language need to be employed. All the stories provided by the participants with WS were very poor at the macro level. Two out of the five participants with WS were not even able to generate the narrative independently, which was evident from the very high number of adult contributions to their stories (see Chapter 6). Their stories lacked temporal and causal cohesion, there was a heavy emphasis on individual pictured scenes rather than an attempt to provide a structurally motivated hierarchy of narrative importance (Berman and Slobin, 1994), and they were all well below what would be expected for their chronological age. Errors with morphology and syntax were also evident and there was a tendency to use simple declarative clauses rather than more complex syntax.

Interestingly, the children's level of vocabulary and morpho-syntactic abilities did not seem to influence their level of story structure, which is similar to what was also reported in the conversational analysis procedure. The children with WS, as already mentioned, had various levels of receptive vocabulary and receptive and expressive morpho-syntax. However neither the child who scored the lowest on all the standardised language tests nor the child who scored the highest were able to generate a story. This suggests that the narrative most clearly shows how linguistic abilities are hard to isolate from general cognitive abilities, which is relevant to the issue of modularity and will be discussed in more detail below.

In summary, with regard to the question of whether individuals with WS have superior linguistic abilities, the data in the present study suggest that this is not quite the case when one takes into account their performance on standardized

tests, conversational behavior and narrative discourse abilities. However we must emphasize the fact that there was a striking variability among the participants with WS, which will be discussed next.

7.2.1. Is there a single WS linguistic profile?

Most of the research done on WS so far has tended to treat WS as a homogeneous profile. This is reflected in the way the majority of the studies on WS have been presented, in that the WS profile has typically been seen as unique. Only recently has the idea been proposed (Pezzini et al., 1999) that individuals with WS may show a rather variable profile of strengths and weaknesses in different areas of language and cognition, and that there may not be a 'single' WS neuropsychological profile.

The present study supports such a view. The single case studies presented in Chapter 4 and the statistical analysis of the results presented in Chapter 6 strongly suggest that the five WS profiles in the present study are all very different to each other, especially in the verbal domain. Some individuals scored remarkably well on some verbal components, however the majority scored remarkably low. For example MW's (case study 1) scores on the TROG were above the level expected for her chronological age, whereas the other four individuals with WS scored in the range between 1 and 3SDs below the mean. Two out of five participants had age-appropriate scores on the BPVS, whereas for the remaining three the results obtained on the BPVS were less impressive. The same degree of variability was observed with regard to all the verbal standardized tests. The scores were more consistent in the non-verbal domain, which has been much less of a controversial issue, given that all studies which have investigated the WS phenotype report difficulties in the visuo-spatial domain. However, with regard to their scores on the Ravens Colored Matrices, there was some variation, which suggests that their general intellectual abilities vary from one case to the next.

Therefore it logically follows that what we may be faced with is a *WS spectrum* or a *WS continuum*. This by definition implies a heterogeneous WS profile, where different points of the spectrum show different features. Such an approach allows the individuals with WS to show different strengths and

weaknesses across their linguistic and cognitive profile. After all, it is not unusual for other genetically based disorders to have a spectrum. Thus for instance autism shows a wide ranging spectrum, from what is called low functioning to high functioning (Wing, 1988), and SLI has several subgroups, each showing strengths and weaknesses in various domains (Conti-Ramsden, 1999). The logical question to ask is what causes such a variability, given that we have a case of a syndrome, which results from a specific chromosomal deletion?

It has already been suggested that individual variation may result from neurological differences between individuals (Rondal, 2001). Work by Korenberg et al., (2000) emphasizes the role that different gene expressions may have on cognition. At this point of our knowledge about WS it is not possible to suggest how the various forms of WS may be related. There is a need for more detailed longitudinal case studies and interdisciplinary studies (those which may involve genetics or brain imaging) in order for us to be able to establish with greater precision what the different manifestations of WS are and whether there is a recognizable pattern which would allow for different subgroups of WS to be defined. Having recognized though that their profiles are heterogeneous is a good starting point.

7.2.2. Is the WS profile the opposite of SLI?

The second aim of the present research study was to address the issue of whether WS and SLI show reverse profiles. As already discussed in the Literature Review in Chapter 2, it has been claimed extensively in the recent literature on modularity that WS and SLI are the 'opposite' of each other, i.e. that the WS profile is characterized by strengths in the verbal and weaknesses in the non-verbal domain, and that the SLI profile is characterized by the reverse characteristics, i.e. strengths in the non-verbal but weaknesses in the verbal domain (Pinker, 1991; 1994; 1999; Clahsen and Almazan, 1998; Smith and Tsimpli, 1995; Smith, 1999; Van der Lely, 1997a).

The present study does not support the claims that WS and SLI profiles are the opposite of each other. As indicated in Chapter 6, there were great similarities between the WS and the SLI groups with regard to language abilities. The differences between the two groups of children on standardized language

tests were not significant. Furthermore, there was substantial overlap in performance between the two populations, with the groups performing exactly the same on the Formulated Sentences subpart of the CELF-E. The participants with SLI were on average better than the participants with WS on the TROG and on the Sentence Assembly subpart of the CELF-E. This not only suggests that the individuals with WS may not have superior linguistic abilities, but it emphasizes the fact that their performance on some linguistic measures (in this case, morpho-syntax) can be very similar and sometimes even poorer than the performance of children diagnosed with having language impairment.

The conversational analysis data, though, was more interesting as it indicated two important aspects: firstly, the SLI group had more inadequate utterances due to problems with expressive syntax/semantics, although the difference between the two groups was not statistically significant. Secondly, the SLI group provided significantly more information than the WS group, which, in contrast, tended to provide too little information. This second aspect however has more to do with pragmatics, rather than with language form.

The narrative discourse data did not reveal any differences between the two groups on the analysis of micro-structure, though on the whole, the WS group had a tendency to produce fewer linguistic devices: cohesive ties, grammatical morphemes, complex syntactic structures beyond the level of a simple declarative clause. The obvious proposal therefore is that linguistic abilities per se do not distinguish between the WS and SLI profiles. This observation can be supported by a recent study by Bellugi et al., (2000) who noted that children with WS performed similarly on a language repetition task to children with early focal brain lesions and children with language impairment, thus suggesting there may be some similarities between individuals with WS and language impaired individuals. The findings of the Bellugi et al.'s study however were not discussed in light of the current debate as to whether WS is the 'opposite' of SLI.

It should be mentioned that the two populations (WS and SLI) were clearly dissociated on the non-verbal standardized tests, as the difference between the two groups was statistically significant. There was no overlap between the two groups and the participants with WS were constantly in the impaired range, whereas the participants with SLI were within the boundaries of

what is considered typical performance. Furthermore, the observed differences in their conversational profiles emphasizes differences at the level of pragmatics rather than morpho-syntax. The narrative discourse analysis also reiterated the differences between the two groups at the level of general cognitive abilities with no differences on their linguistic competence. This suggests there is definitely support for a dissociation between the WS and the SLI profiles, in that the WS profiles show consistent deficits in the general cognitive domain, whereas the SLI profile is consistently superior in the general cognitive domain, but not in the verbal domain. Therefore the claim of 'a double dissociation' between the WS and SLI cannot be supported by the present data. The logical question to ask here is what might the reasons be for having similar linguistic profiles in WS and SLI?

An obvious place to search for the answer would be genetics. Kjelgaard and Tager Flusberg (2001) observed that a subgroup of children with autism showed a profile similar to that of children with SLI, for which they had a genetic explanation. Similarly, it may be the case that by definition SLI is not diagnosed in children who have already been diagnosed as having WS. Thus the fact that a child has been diagnosed as having WS may not preclude the prevalence of SLI in some children with WS. This may suggest something deeper that the phenotype of SLI and WS may have in common, i.e. some subgroups of SLI and WS may share some of their genetics. Kjelgaard and Tager Flusberg also raised the issue of whether it is possible that children with other neurodevelopmental disorders show the same language profile as the children with autism and the children with SLI in their study. In order to address this issue and advance our understanding of language disorders at both clinical and theoretical levels, further research is needed which will investigate the neurocognitive mechanisms underlying language processing in children with WS, SLI, and other disorders, in much more detail than it has been done so far.

7.3. How does the WS profile contribute to the modularity debate?

The overall picture that emerged out of the case study reports and the analysis of the results was one of extensive variation across the five participants with WS. This range of variation was evident most clearly in their performance on verbal standardized tests, difficulties with syntax/semantics in the analysis of conversational inadequacy; and in their abilities to generate narratives and also use linguistic devices, such as grammatical morphemes, complex syntactic structures, and cohesive devices. Furthermore, for the majority of cases there were no clear dissociations between their verbal and their general cognitive profiles. If a strict Fodorian type of modularity is assumed, the main features of which are informational encapsulation and domain specificity, one would expect to find no input to language from central processes. Thus if the domain of language is informationally encapsulated and has no input at all from central processes, one would expect that language structure would be well preserved, in the face of general cognitive difficulties, which did not seem to be the case in the present study.

The proposed distinction between syntax and pragmatics (Chomsky, 1980) should also hold in that one would expect that syntax would be preserved whereas pragmatics would be very deficient and vice versa. The data from the present study however does not support such arguments, as all the individuals with WS had some syntactic deficits, even though their pragmatic problems were more prevalent. It seems that if a child with WS does not have the cognitive potential for understanding certain relationships between events, it is hardly surprising that the same child will fail to express such relationships linguistically, although the actual linguistic structures may be present in the child's expressive language. This was most evident when the participants with WS attempted to generate the *Frog Story* narrative, where the interplay between linguistic and cognitive factors is very strong. On the other hand, certain specifically linguistic capabilities must develop which will allow such meanings to be expressed in language. Hence although the child may possess the cognitive potential or understanding the relationship between events, the underdevelopment of the

child's linguistic abilities will interfere and prevent that cognitive potential from being fully realized linguistically. This was most evident with the generated *Frog Stories* of the participants with SLI, who were very good at detecting the causal relationship between events on a non-verbal task (Picture Arrangement), yet were unable to express the linguistically (in the *Frog Story*).

If we assume that there is a constant interplay between linguistic and nonlinguistic factors, we should expect to find degrees of impairment, rather than clearly impaired or clearly spared aspects of linguistic or general cognitive functioning. And this was the case with all the case studies reported in the present thesis. Such a finding is consistent with the proposal by Perkins (1998) according to which pragmatics is not considered to be an independent cognitive system but is viewed as a function of the interactions between linguistic and nonlinguistic abilities. This means that Chomsky's distinction between syntax and pragmatics needs to be revisited.

The present findings however support Levy's (1996) and Levy and Kave's (1999) proposal that atypical populations such as WS may offer support for 'small' or 'internal' modularity, i.e. modularity within the linguistic system but not modularity between language and general cognitive processes or 'big' modularity. This is supported by the following arguments:

- 1) there were significant differences between the various components of the linguistic system;**

The results in Chapter 6 revealed significant differences within the WS group between their performance on receptive vocabulary (BPVS) and their performance on receptive grammar (TROG), which implies that the two skills may be informationally encapsulated, i.e. the development of one does not impact the development of the other skills. Furthermore, performance on the BPVS was also significantly better than performance on the Formulated Sentences part of the CELF-E. Thus there are reasonable grounds to argue along similar lines to Levy (1994, 1996) and Levy and Kave, (1999) that atypical development, and in this case WS, can support 'local' modularity.

2) the differences between the linguistic and non-linguistic systems were only marginally significant.

Whereas the present data offers strong support for what is termed ‘internal’ or ‘small’ modularity, there is no clear support for modularity in a Fodorian sense, i.e. between language and general cognitive processes. The overall profiles of the WS participants showed remarkable overlaps between the verbal and non-verbal domains on the standardized tests, i.e. their scores in the two domains were very similar and sometimes almost identical. A similar picture emerged with the conversational analysis procedure where the participants with WS did not show any remarkable advantage with language structure over language use, and with the narrative discourse analysis, where again, language structure represented by the choice of linguistic devices (cohesive markers, grammatical morphemes, and complex syntactic structures) was not a particular strength among the participants with WS. Therefore, it would be hard to postulate that ‘modules’ are informationally encapsulated in such a way as to have no access at all to any information coming from the central processes.

From the preceding discussion it follows that there is not a straightforward answer to the question of whether WS offers evidence for the modularity of language as a system separate from other cognitive processes, although it is argued that it does offer some evidence for the existence of different modules within the linguistic and the general cognitive domain. What is also suggested is that there may be a possible interaction between the language modules and central processes. The fact that the present case studies suggest an interaction between central processes and modular systems does not preclude the existence of modularity as such. Gerrans (2002) proposes that modules may not be informationally encapsulated in a Fodorian sense, but this does not prevent the interaction between modules and the central system. It is suggested that domain specific knowledge may exist, however it may result either from the interaction of the modules with the central system, or of central processes operating on modularized inputs (Gerrans, 2002). This sounds like a promising approach and the present data offers support for it.

Another issue which needs to be considered when the contribution of atypical populations such as WS to the modularity hypothesis is discussed is the

neuro-constructivist approach (Karmiloff-Smith, 1992, 1998). According to this theory, as already elaborated in Chapter 2, “*two very distinct phenotypical outcomes could start with only slightly differing parameters but, with development, the effects of this small difference might be far reaching*” (Karmiloff-Smith, 1998, 390). This suggests that the fact that we do not see clear dissociations between the verbal and the non-verbal domain early on in WS and the fact that their linguistic profiles are not very different from those of individuals with SLI may not preclude such dissociations from emerging with later development. The data from the present study are not directly applicable to this kind of approach, as the study was not longitudinal and there was not much information on the linguistic abilities of the participants with WS prior to their involvement in the present study in order for us to know how their profiles had been developing. It is interesting to note however that the youngest participant with WS in the present study shows the most interesting profile, demonstrating the strongest discrepancies between verbal and non-verbal abilities, whereas the oldest participant with WS did not show any discrepancies at all. Such results pose a problem for neuro-constructivist theory because if it is assumed that modularity emerges with development, why does it seem to be emerging so early in some participants with WS and why doesn't the oldest participant with WS show clearer dissociations?

It would be too speculative to comment on the way the cognitive profiles of the participants with WS in the present study will develop in future. It may be the case that in adulthood, the individuals with WS will have very different profiles to the individuals with SLI and the possibility is not excluded that they might show clearer dissociations between their verbal and non-verbal domains. More longitudinal and more detailed studies are needed in order for more definitive answers to emerge with regard to this issue.

7.4. Exceptional cases

A case worthy of special attention is that of MW (case study 1), the child with WS whose profile showed strong dissociations between the verbal and the non-verbal domain. Her scores on standardised language tests were either age

appropriate (BPVS and TROG) or higher than expected for her chronological age (for instance, on the Recalling Sentences and the Word Formation subparts of the CELF-E, she scored one and a half and two and a half standard deviations above the mean respectively). However her score was lower on the Formulated Sentences subpart, on which she scored one standard deviation below the mean. Her scores on the four non-verbal tasks were however much lower and fell between one a half and three standard deviations below the mean. The scores on the Bus Story revealed a similar dissociation between the verbal and the non-verbal domain in that her score for sentence length was even higher than that expected for her chronological age, and her use of subordinate clauses was almost age appropriate, however the information she provided was very poor and well below her chronological age.

Her use of language in spontaneous conversations however was not that superior at all. MW was not a very efficient communicator in that she provided too little information for the conversational situation, thus being no different from the rest of the group whose linguistic abilities were substantially lower. Furthermore, when asked to generate a story from the wordless picture book, '*Frog, where are you*' MW was unable to do so without constant prompting from the adult. It seems that when integration of linguistic and cognitive factors is required, linguistic competence alone may not compensate for the cognitive deficits.

Although it is true that linguistic performance cannot be considered in isolation and it is certainly not a product of linguistic competence alone, but also of cognitive, affective and social competencies, it seems to be the case that some parts of linguistic performance can develop in isolation from others, informing us of ways in which linguistic competence may be distributed in the human mind. As in the case of Laura (Yamada, 1990), whose language structure was very good but whose communication skills were not, MW is a case where language structure seems to be generally unimpaired, in the face of moderate to severe deficits in the non-verbal domain and with some communication difficulties. This is the type of profile assumed by those who argue that WS supports the modularity of mind hypothesis in a Fodorian sense. The 'superior' linguistic abilities were evident only on MW's standardised test performance. She was no different from the rest of the WS group with regard to her conversational abilities

and narrative discourse abilities. Therefore, even though on the surface, MW may seem to offer support to the modularity hypothesis in a Fodorian sense, when considered from a multi-aspect point of view, the case is not that straightforward at all, and it would be more logical to view it as a case supporting some local or internal modularity (Levy, 1996) rather than more global modularity as proposed by Fodor.

What needs to be mentioned as well about this case study which may have relevance for future research in the field, is that the one child with WS who shows the strongest discrepancy between the verbal and the non verbal domain, actually scores rather well (almost age equivalent) on the Colored Progressive Matrices. It might be the case that the ability to reason by analogy and form gestalts is related to language development, but given the fact that some of the children with SLI, who had excellent scores on the Colored Progressive Matrices still had severe problems with language, suggests that being 'good' at the Colored Progressive Matrices may not be the only condition required in order for language to develop more or less typically. It would be interesting to pursue this issue further, i.e. what is it that makes some children with WS more linguistically able than others. In this respect genetic studies will have a lot to offer as well as more detailed case studies which would attempt to link specific strengths in the language domain with strengths in the general cognitive functioning domain. It might be worth to focus on the question of investigating the underlying mechanisms for those cases with WS where language abilities seem to be at a high level of functioning, and investigating in more detail the genotype-phenotype mappings.

In summary, the three most important findings of the present study are: 1) that the linguistic abilities in individuals with WS do not seem to be superior, though there are some exceptional cases; 2) WS and SLI are not the opposite of each other, and thus do not support the existence of *double dissociations* in these two populations; 3) WS does not seem to offer support for modularity in a strictly Fodorian sense, however it does support the existence of some local modularity more in line with what Levy (1996) and Levy and Kave (1999) suggest.

7.5. Some limitations of the present study

- Firstly, one of the limitations of the present study is that it is not easily generalisable to the wider population of WS nor to the wider population of SLI. Further detailed case studies need to be carried out before any of the findings of the present research are supported.
- Secondly, the selection of standardised tests could have been different. The present study used the TROG as a measure of receptive grammatical abilities and the expressive part of the CELF-E as a measure of expressive grammatical abilities. It would have been better if the same test was used both for receptive and expressive verbal abilities when available. This is because tests are standardised on different populations and there is a danger through using two different tests in order to measure two different skills (in this case receptive and expressive grammar), the differences we find between the two different skills may reflect the differences between the two populations on which they were standardised, rather than reflecting fundamental differences in the population which is the object of the particular study (in this case the cohort of WS and SLI participants).
- Thirdly, even though a detailed linguistic analysis was carried out, phonological analysis did not form part of the profiles. Since there have been some suggestions that phonological processing may have an impact on language development (Vihman, 1996), it would have been useful to investigate whether there was any relation between the children's phonological processing abilities and their level of language abilities.
- Problems emerged when coding the conversational samples, especially when allocating the codes for conversational inadequacy. There were a few occasions with some of the participants when the child's utterance was inadequate on both levels (expressive syntax/semantics and a pragmatic level). In order for a statistical analysis to be performed the

codes had to be mutually exclusive. This meant that it was not recommendable for the same utterance to be allocated two codes at the same time. Two categories of inadequacy were particularly vulnerable: Too Much Information and Too Little Information. It often happened that the child would reply with one word as opposed to a full sentence. For example:

A what is happening next?
C playing.

In cases like the above the problem arose as to whether to code the inadequate utterance as syntactically problematic (no subject in the sentence) or as pragmatically problematic, i.e. providing too little information. A consensus was made so that such cases are coded as pragmatically problematic (i.e. the child is not aware that they need to say who is playing). Similarly, there were a few cases where the child had provided a very long utterance including a lot of irrelevant information, which could be coded as either syntactically or pragmatically inappropriate. It was decided that such utterances should be coded as pragmatically inappropriate. However these decisions are potentially dangerous as they may allow for some grammatical difficulties to be masked under pragmatic problems. Perhaps in future studies of a similar type a different category into which such 'problematic' utterances are allocated would be more informative.

- Another problem that emerged was to do with standardised test measures. The CELF manual does not allow for the scaled scores on the individual subtests to fall below 3, which consequently corresponds to $z = -2.33$. However the addition of three scaled scores can be converted into an expressive language score which in this case corresponded to 50. 50 converted into a z-score corresponds to -3.33 . This means that for some children the z-score offered by the manual did not completely reflect their disability. As a result the scores on the CELF subtests were very close to each other and did not differentiate between participants at the lowest end

of the scale. This should be taken into consideration in future research which adopts the CELF as a measure.

- Another problematic issue was the block termed ‘reversible passives’ in the TROG. The four items presented under the heading ‘reversible passives’ are not really reversible because the semantic features of the participant roles are not controlled for. In order for a sentence to be classed as a truly ‘reversible’ there should not be any semantic clues available at all. For example a square pushing a circle or vice versa would be a good example.
- Finally, the children’s socio-economic background was not controlled for in the present study. Therefore it is not clear to what extent the individual variation between the participants with WS was dependent upon their socio-economic background, type of education they had received, and parental input rather than being a result of various manifestations of a syndrome.

7.6. Clinical implications

Last but not least, it is important to consider the clinical implications of the present study which are manifold. First of all, caution should be exercised when defining features of the WS profile are being invoked. The present study suggests that the only unifying feature for the WS profile is deficits in visuo-construction abilities and sequential thinking abilities. The linguistic profile varies individually and different individuals show different strengths and weaknesses, which means that assumptions should not be made as to how an individual diagnosed with the WS might present in terms of their linguistic abilities. Therefore, there is a need for a comprehensive assessment in each individual case, which should involve a range of standardised verbal and non-verbal measures and conversational data for a detailed profile to be obtained and all aspects of impairment/strengths to be taken into account when an intervention programme is being devised. Furthermore, since the findings of the present study indicated that although all of the children with WS presented with poor visuo-spatial abilities, some children with WS had better general intellectual abilities

than others. This should be taken into account when a therapeutic approach is being devised, as different strategies may be required for profiles of different abilities.

7.7. Final comments

The aims of the present thesis were to investigate whether individuals with WS show superior verbal abilities in comparison to their non-verbal cognitive functioning and to contrast their verbal and non-verbal cognitive profiles with those of SLI individuals to determine whether WS can be viewed as the 'opposite' of SLI. It was hoped that this data would provide some insight into the question of whether WS offers support for modular views of language.

A combination of methodologies was used; detailed case studies which included standardised tests, a conversational analysis and a narrative discourse procedure. A statistical analysis of the results was also performed. This allowed subtle and in-depth analysis to be conducted both at individual and group level and is particularly appropriate for investigations of populations with complex profiles such as WS and SLI.

In contrast to much of the previously reported literature, it was found that the linguistic abilities of these individuals with WS was often severely impaired and, in some cases, even worse than those of the children with SLI although the two profiles are clearly distinct regarding their non-verbal abilities. These findings are commensurate with some more recent studies of WS. WS does not appear to offer evidence for the modularity of language as separate from general cognitive processes in a strict Fodorian sense. However, it does support claims for small or local modularity that is, within the linguistic system. The thesis has thus been able to make a contribution to the theoretical debates surrounding the issue of modularity by challenging some of the present views. The findings were also seen to have some potential relevance within a clinical environment. A number of questions regarding potential directions for future research have been raised and they have been referred to in the course of the discussion.

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APPENDICES

APPENDIX 1.

Contents:

- a sample of the BPVS;
- a sample of the TROG;
- a sample of the CELF (Word Structure, Formulated Sentence, Recalling Sentences and Sentence Assembly)
- a sample of coding a conversational interaction;
- a sample of cohesion analysis of a Frog Story narration.

Individual Test Record

MS

M. Dunn, Leota M. Dunn and Chris Whetton with David Pintilie

TEST SCORES

Raw score
(from overleaf)

16

Standardized score equivalent
(from Table 1)

70

Percentile rank
(from Table 3)

2

Age equivalent
(from Table 4)

7.2

Age equivalent
Confidence Band

6.5 to 8.1

Name: _____ Sex: M F Gender: _____
 Address: _____ Home Phone: _____
 Examiner: _____
 Language of the Home: Standard English: Other: _____
(Specify former language or type of English used if spoken)

& Age Data

Year	Month	Day
00	05	23
89	03	12
11	02	

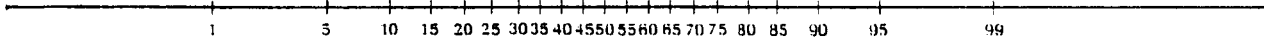
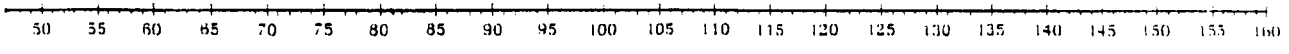
* Age should be found in years and COMPLETED months.

True Score Confidence Band

Obtain a standardized score equivalent on the test. Then draw a heavy, straight, vertical line and across both scales. This line will span the two obtained deviation-type test scores. Then draw a shaded area on both sides of the vertical line. An example is given in the Manual.

Obtained Standardized Score	Area to Shade		Obtained Standardized Score	Area to Shade	
	Left of line	Right of line		Left of line	Right of line
Below 70	0	14	100-104	7	7
70-79	2	12	105-109	8	6
80-89	4	10	110-119	10	4
90-95	6	8	120-130	12	2
96-99	7	7	Above 130	14	0

This shaded area provides a confidence band: the range of scores within which the subject's true scores can be expected to fall 68 times in 100. (These band width values are based on a median standard error of measurement (SEM) of ± 7, with the band widths made increasingly asymmetrical toward the extremes to allow for regression to the mean.) See the Manual for a discussion of SEM confidence bands. Also see the Manual for a discussion of the true score confidence band for the age equivalent.



EXTREMELY LOW SCORE | MODERATELY LOW SCORE | LOW AVERAGE SCORE | HIGH AVERAGE SCORE | MODERATELY HIGH SCORE | EXTREMELY HIGH SCORE

- 2

Test	Date	Results
S Long Form		

Performance Evaluation

This standardized test provides an estimate only of this individual's hearing vocabulary in Standard English, as compared with a cross-section of British persons of the same age. Do you believe the performance of this subject represents fairly her or his true ability in this area? Yes _____ No. If not, cite reasons such as rapport problems, poor testing situation, hearing or vision loss, visual-perceptual disorder, test too easy or too hard (automatic basal or ceiling used), etc.

Observations

Describe the subject's test behaviour such as in task, quickness of response, signs of anxiety, work habits, etc.

Recommendations

Test Items and Abbreviated Instructions

Administering the Training Items

For most subjects under the age of 8:

Use plates A, B, C and D. Administer as many training item series as necessary to secure four consecutive correct responses.

For most subjects aged 8 and over:

Use plates C, D, E and F. Administer as many training item series as necessary to secure four consecutive correct responses.

Practice Words and Keys

Training Plate	Initial Series	First Alternative Series	Second Alternative Series	Third Alternative Series
A	dog (3)	baby (2)	bed (1)	knife (4)
B	man (2)	comb (3)	fork (4)	mouth (1)
C	swing (3)	drink (4)	climb (2)	walk (1)
D	sleep (2)	eat (1)	cry (4)	crawl (3)
E	wheel (4)	zip (2)	rope (1)	rake (3)
F	mopping (1)	cycling (2)	sawing (4)	mowing (3)

(Complete directions are given in Part 1 of the Manual.)

Administering the Test Items

Basal: Highest 6 consecutive correct responses.

Ceiling: Lowest 6 consecutive responses containing 4 errors.

Starting Point: For a subject assumed to be of average ability, find the person's age indicated in the margin, and begin the test with that item. Otherwise consult Part 1 of the Manual for further instructions.

Recording Responses and Errors:

Record the subject's response (1, 2, 3, or 4) for each item administered. For each error draw an oblique line through the symbol on the right of the item as illustrated below:

17 pulley . . . (4) 3 /

(Complete directions are given in Part 1 of the Manual.)

Plate No.

Plate No.	Word	Key	Response	Error
2-6	1 bucket	(1)	_____	○
	2 ball	(4)	_____	○
	3 car	(2)	_____	○
	4 wooden	(2)	_____	○
7-9	5 camera	(4)	_____	○
	6 envelope	(2)	_____	○
	7 circle	(4)	_____	○
	8 furniture	(3)	_____	○
	9 nostril	(1)	_____	○
10-13	10 dangerous	(2)	<u>2</u>	○
	11 furious	(1)	<u>1</u>	○
	12 athlete	(3)	<u>3</u>	○
	13 artist	(3)	<u>3</u>	○
14-18	14 weary	(3)	<u>4</u>	○
	15 socket	(1)	<u>1</u>	○
	16 antler	(3)	<u>3</u>	○
	17 pulley	(4)	<u>4</u>	○
	18 inflated	(3)	<u>4</u>	○
	19 assisting	(1)	<u>4</u>	○
	20 collision	(4)	<u>2</u>	○
	21 floral	(1)	<u>2</u>	○
	22 goblet	(3)	_____	○
	23 utensil	(2)	_____	○
	24 talon	(3)	_____	○
	25 confiding	(3)	_____	○
	26 inoculation	(1)	_____	○
	27 consuming	(4)	_____	○
	28 gable	(4)	_____	○
	29 apparition	(2)	_____	○
	30 emission	(3)	_____	○
	31 ambulation	(2)	_____	○
	32 saltation	(4)	_____	○

Calculating Raw Score

Ceiling item	_____	<u>19</u>
minus errors	_____	<u>4</u>
Raw score	_____	<u>15</u>

Transfer raw score to test record oval, in top right hand corner.

* To record errors make oblique strokes through the geometric figures. Every sixth figure is identical to facilitate the determination of the basal or ceiling.

MS

TROG form A

Name: <small>surname</small>	<small>first name</small>
Date: 17/07/00	
Date of birth: 12/03/1989	
Age: 11.02	Sex: M
Tester:	

Vocabulary check

	naming	pointing	
		pre	post
I 7 elephant			
4 hat			
3 bag			
6 book			
1 spoon			
5 sheep			
2 woman/lady			
8 table			
II 1 flower			
4 cat			
2 drink			
3 shoe			
8 girl			
7 chair			
6 horse			
5 ball			
III 7 dog			
8 circle			
4 square			
2 boy			
5 cup			
6 star			
1 wall			
3 apple			

	naming	pointing	
		pre	post
IV 7 food			
1 man			
4 bird			
6 knife			
5 box			
2 cow			
8 pencil			
3 tree			
V 1 dropping			
6 drinking			
8 jumping			
2 pushing			
5 carrying			
4 chasing			
3 standing			
7 looking			
VI 8 big			
4 red			
3 tall			
6 yellow			
2 fat			
7 brown			
5 blue			
1 black			

Total blocks passed

Age equivalent

Centile

A 1	shoe	
2	bird	
3	comb	
4	apple	

2134

B 5	eating	
6	picking	
7	sitting	
8	running	

2314

C 9	long	
10	tall	
11	red	
12	black	

1223

8-9 yrs
start here

D 13	the boy is running	
14	the big cup	
15	the dog is sitting	
16	the red ball	

3421

E 17	the boy is not running	4
18	the dog is not drinking	
19	the girl is not jumping	
20	the dog is not sitting	

3421

F 21	the boy is jumping over the box	
22	the girl is sitting on the table	
23	the man is eating the apple	
24	the woman/lady is carrying the bag	

1433

G 25	they are sitting on the table	
26	the cow is looking at them	
27	they are jumping over the wall	
28	the elephant is carrying them	

4221

10+ yrs
start here

H 29	the girl is pushing the horse	4
30	the boy is chasing the sheep	3
31	the man is chasing the dog	2
32	the cow is pushing the woman/lady	4

P
4324

I 33	she is sitting on the chair	4
34	the woman/lady is carrying him	R 1
35	he is sitting in the tree	3
36	the horse is looking at her	4

P
4134

J 37	the cats look at the ball	2
38	the boy stands on the chairs	1
39	the boys pick the apples	R 3
40	the girl drops the cups	3

f
2133

K 41	the knife is longer than the pencil	4	P 4131
42	the box is bigger than the cup	1	
43	the shoe is bigger than the bird	3	
44	the horse is taller than the wall	1	
L 45	the girl is chased by the horse	1	P 1232
46	the elephant is pushed by the boy	2	
47	the horse is chased by the man	3	
48	the cow is pushed by the man	2	
M 49	the cup is in the box	3	F 3124
50	the pencil is on the box	1	
51	the circle is in the star	2	
52	the knife is on the shoe	2 *	
N 53	the boy chasing the horse is fat R	4	F 4123
54	the pencil on the shoe is blue	2 *	
55	the cow chasing the cat is brown	4 *	
56	the circle in the star is yellow	3	
O 57	the box but not the chair is red	1	P 1422
58	the cat is big but not black	4	
59	the horse but not the boy is standing R	2	
60	the boy is sitting but not eating	2	
P 61	the pencil is above the flower	4	P 4343
62	the comb is below the spoon	3	
63	the star is above the circle	4	
64	the square is below the star	2	
Q 65	not only the bird but also the flower is blue	3 *	F 1223
66	the box is not only big but also blue	4 *	
67	not only the girl but also the cat is sitting	3 *	
68	the girl has not only food but also a drink	4 *	
R 69	the pencil is on the book that is yellow	1	P 1243
70	the girl chases the dog that is big	2	
71	the square is in the star that is blue	4	
72	the dog chases the horse that is brown	3	
S 73	neither the dog nor the ball is brown	1	F 1422
74	the pencil is neither long nor red	2 *	
75	neither the boy nor the horse is running	2	
76	the boy has neither hat nor shoes	2	
T 77	the book the pencil is on is red R	2 *	F 3144
78	the cat the cow chases is black	4 *	
79	the circle the star is in is red	2 *	
80	the boy the dog chases is big	3 *	

Now recheck vocabulary if necessary

Word Structure Continued

Irregular Past Tense		Score
0. Here is Mark writing a letter. This is the letter Mark <u>wrote</u> (wrote/has written)	F 0 NR	
1. Here is Ann getting a present. This is the present Ann <u>is got</u> (got/has got) <small>(If the pupil says <i>received</i>, prompt one time with "Can you say it another way?" and repeat the item.)</small>	F 0 NR	
2. Here is Ben making an aeroplane. This is the aeroplane Ben <u>has made</u> (made/has made) <small>(If the pupil substitutes the word <i>built</i> indicate this and count the item as correct.)</small>	F 0 NR	

Auxiliary + ing

For the following two items, if the pupil says the present tense without the auxiliary, e.g. *swing* instead of *are swinging* for Item 23, prompt one time with "Can you say it another way? Remember, here Mark is fishing (point) and here..." (repeat item, e.g., "Ann and Mark...")

Here Mark is fishing.

3. Here Ann and Mark <u>are playing on swings</u> (are swinging)	F 0 NR
4. Here Ben <u>is running away</u> (is running)	F 0 NR

Derivation of Nouns from Verbs

5. This man paints. He is called a <u>painter</u> ✓	F 0 NR
6. This girl jogs. She is called a <u>jogger</u> ✓ <small>(If the pupil substitutes the word <i>runner</i>, indicate this and count the item as correct.)</small>	F 0 NR
7. This woman teaches. She is called a <u>teacher</u> ✓	F 0 NR

Adjective Derivation

8. Mother said, 'You can't eat because your hands have dirt on them.' She could have said, 'You can't eat because your hands are <u>dirty</u> ' ✓	F 0 NR
9. The teacher said, 'We won't go outside with this much noise in the room.' She could have said, 'We won't go outside because it's too <u>noisy</u> ' ✓	F 0 NR
10. Ann said, 'Mark, you have all the luck.' She could have said, 'You are very <u>lucky</u> ' ✓	F 0 NR

Formation of Comparative and Superlative

11. This boy is a fast runner, but this boy is even <u>more fast</u> (faster) and this boy is the <u>slowest</u> (fastest)	F 0 NR
12. This man is strong, but this man is a bit <u>stronger</u> (stronger) and this man is the <u>strongest</u> (strongest) ✓	F 0 NR

Demonstratives

13. Mark said, "I don't want those apples. I'll take some of <u>those</u> " (those/these)	F 0 NR
14. Ann said, "I want this book, and I want <u>that</u> " (that book/one)	F 0 NR

Raw Score 14

raw 35
total 12

Items Analysis for Word Structure

Items
1
2
3
4
5
6
7
8
9
10
11
12
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34
35

(35)

Word Structure

Item	Stimulus	Repetitions	Discontinue Rule
Items 5-7	Required to compute Expressive Language Score: <i>Stimulus Manual 1</i> and CELF-R Total Language score	One allowed	None; all items must be administered.
Item 8 +	Supplementary subtest		

Circle 1 for a correct response, 0 for an incorrect response, and NR for no response. Correct responses are in colour.

Trial 1: Here is a boy and here is a . . . (girl) **Trial 2:** Here is a woman and here is a . . . (man)
Sometimes we will be talking about 3 children named Mark, Ann, and Ben. Here is Mark: here is Ann: and here is Ben."

Regular Plurals	Score
Here is one dog. Here are two <u>dogs</u> (dogs) (If the pupil says puppies, indicate this and mark the item as correct.)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Here is one cat. Here are two <u>cats</u> (cats) (If the pupil says kittens, indicate this and mark the item correct.)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Here is one watch. Here are two <u>watches</u> (watches)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR

Regular Plurals	Score
Here is a tooth. Here are some <u>teeth</u> (teeth)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Here is a foot. Here are two <u>feet</u> (feet)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Here is a man. Here are two <u>men</u> (men)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR

Reminder: (This page is to remind the pupil of the children's names.)

Say "Remember the names of the children are Mark (point), Ann (point), and Ben (point)."

Whose Possessives	Score
Whose bike is this? It is <u>Mark's</u> (Mark's)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Whose bike is this? It is <u>Ann's</u> (Ann's)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR

Personal Pronouns	Score
The girl has a new hat. The hat belongs to <u>her</u> (her)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
The boy has some new skis. The skis belong to <u>him</u> (him)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
They have a radio to share. The radio belongs to all of <u>them</u> (them)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR

Possessive Pronouns	Score
A boy bought a new dog. The dog is his.	
His father bought a new coat. The coat is <u>his</u> (his)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
His mother bought a new dress. The dress is <u>hers</u> (hers)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
They all bought a new car. The car is <u>theirs</u> (theirs)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR

3rd Person Singular	Score
Here Mark types. Here he <u>writes</u> (writes/draws)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Here Ann jumps. Here she <u>swims</u> (swims)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR

Regular Past Tense	Score
Here is Mark jumping the fence. This is the fence Mark has <u>jumped</u> (jumped)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Here is Ann climbing a ladder. Here is the ladder Ann has <u>climbed</u> (climbed)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR
Here is Ben painting a picture. This is the picture Ben has <u>painting</u> (painted)	<input checked="" type="radio"/> 1 <input type="radio"/> 0 <input type="radio"/> NR

12/04/00 JS

Formulated Sentences

Picture Stimulus	Repetitions	Response Rule
Ages 5+ Required to compute Expressive Language score and CELF-R Total Language score	Stimulus Manual 2	One repetition allowed
		4 consecutive zero scores (or no responses)

Write the pupil's responses verbatim in the space provided.
Refer to Tables 2.1 and 2.2 in Section 2 of the Examiner's Manual for scoring guidelines.

Demonstration: books
Trial: shoes

		Score				
1. car	They are going in the car.	3	2	1	0	NR
2. gave	The mum gave the children their tea.	3	2	1	0	NR
3. before	Before the man the woman was with trolley	3	2	1	0	NR
4. when	When the man gave the children ice-cream	3	2	1	0	NR
5. after	After number 10 it was number 3.	3	2	1	0	NR
6. if	If the girl kicks the ball into the tree the boy don't be help.	3	2	1	0	NR
7. and	And if the manstraining leaves then they will plough they'll blow all over the place.	3	2	1	0	NR
8. because	The car's at the stop because the traffic warden was on the road.	3	2	1	0	NR
9. but	But the other two were on the bike except the little boy had fallen off.	3	2	1	0	NR
10. or	Shall I have this cabbage or shall I have this apple.	3	2	1	0	NR
11. although	Although the boy can ride the bike the boy with the broken arm can ride a skateboard.	3	2	1	0	NR
12. tall	The big girl is taller than the little girl.	3	2	1	0	NR
13. either	Sit down it or either the cooker will catch fire.	3	2	1	0	NR
14. neither	Neither I have these shoes or neither have these.	3	2	1	0	NR

Before presenting the remaining items, say, "Now, I'll give you two words to use in the same sentence. You can use the words in any order you choose, but you must use both words in the same sentence. Here's the next picture."

and	because	The builders were building the table because the people and the workers were building.	3	2	1	0	NR
whatever	until	Whatever the time we just drive this car if you can't have it until it's working.	3	2	1	0	NR
and	but	A clown was juggling but a clown held balloons.	3	2	1	0	NR
before	if	Before the man the lady was paying her part.	3	2	1	0	NR
whenever	until	Whenever the watch starts, you just got to wait until the watch starts.	3	2	1	0	NR
after	unless	After this unless this rain starts after this but comes until the rain.	3	2	1	0	NR
			18	6	8		
			32				

Scaled - 17
EL5 - 78
② Before the man or the lady if the plane flies without them.

Recalling Sentences

Use	Picture Stimuli	Repetitions	Discontinue Rule
Ages 5+ Required to compute Expressive Language score and CELF-R Total Language score	None	None allowed	4 consecutive zero scores (no responses or sentences the 4 + errors)

Circle 3 if response is repeated exactly, 2 if there is one error, 1 if there are two to three errors, 0 if there are four or more errors, and NR if there is no response. Mark errors on the sentence or write an incorrect response verbatim in the space provided.

Demonstration: Turn left at the postbox.
Trial: The boat sailed across the lake.

	OK	1 err	2-3 err	4 + err	No Response
1. The dog chased the cat.	0	2	1	0	NR
2. Did the boy kick the ball?	0	2	1	0	NR
3. The train was followed by the car.	0	2	1	0	NR
4. Was the car followed by the police?	0	2	1	0	NR
5. Didn't the rabbit eat the carrot?	0	2	1	0	NR
6. The boy was not chased by the girl.	0	2	1	0	NR
7. The boy and the girl picked the flowers.	0	2	1	0	NR
8. Wasn't the ice cream bought by the girl?	0	2	1	0	NR
9. Has the mouse been chased by the cat?	0	2	1	0	NR
10. If the hat is too big, the man won't buy it.	0	2	1	0	NR
11. The ball was not thrown by the boy or the girl.	0	2	1	0	NR
12. The man who painted the railings was very kind.	0	2	1	0	NR
13. The dog chased the ball, and the cat didn't follow.	0	2	1	0	NR
14. The girl did not like the boy who lived down the street.	0	2	1	0	NR
15. The big, brown dog chased the red ball.	0	2	1	0	NR
16. The man stopped to pick up some milk even though he was late for work.	0	2	1	0	NR
17. The trumpets and violins were played by the musicians.	0	2	1	0	NR
18. If she would have baked some biscuits, they would have been eaten.	0	2	1	0	NR
19. The boy sent a letter to the lady who moved away last year.	0	2	1	0	NR
20. The children cut and pasted the pictures and hung them on the wall.	0	2	1	0	NR
21. The woman has read the twelve big, heavy, brown books.	0	2	1	0	NR
22. The man who sits on the bench next to the oak tree is our mayor.	0	2	1	0	NR
23. After the family had finished dinner, they decided to go for a ride in the country.	0	2	1	0	NR
24. The boy who didn't turn up for practice wasn't allowed to play in the team until a week later.	0	2	1	0	NR
25. The postman sorted, labelled, bundled, and delivered the magazines.	0	2	1	0	NR
26. The man in the house next door promised to water our flowers during our holiday.	0	2	1	0	NR

51 8 4

66

Sentence Assembly

Use	Picture Stimuli	Repetitions	Discontinue Rule
Ages 5-7 Supplementary subtest	Stimulus Manual 2	One repetition allowed	4 consecutive zero scores (errors or no responses)
Ages 8 + Required to compute Expressive Language score and CELF-R Total Language score			

Check the blank next to the pupil's responses. The pupil must give 2 of the sentence responses listed for an item to be scored as correct. Circle 1 for a correct response, 0 for an incorrect response, and NR for no response. If the pupil gives a response not listed, record it in the space provided.

Demonstration: tall the boy is

- a) The boy is tall.
- b) Is the boy tall?

Trial 1: kicked the girl the boy

- a) The girl kicked the boy.
- b) The boy kicked the girl.

Trial 2: is in the chair the kitten

- a) The kitten is in the chair.
- b) Is the kitten in the chair?

	Score
<p>saw <input type="checkbox"/> the dog <input type="checkbox"/> the woman</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The woman saw the dog. <input checked="" type="checkbox"/> b) The dog saw the woman. 	0
<p>the man <input type="checkbox"/> the dog <input type="checkbox"/> chased by <input type="checkbox"/> was</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The man was chased by the dog. <input checked="" type="checkbox"/> b) The dog was chased by the man. <input checked="" type="checkbox"/> c) Was the man chased by the dog? <input checked="" type="checkbox"/> d) Was the dog chased by the man? 	0
<p>in the box <input type="checkbox"/> the ball <input type="checkbox"/> is</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The ball is in the box. <input checked="" type="checkbox"/> b) Is the ball in the box? 	0
<p>tall <input type="checkbox"/> strong <input type="checkbox"/> the man <input type="checkbox"/> and <input type="checkbox"/> is</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The man is tall and strong. <input checked="" type="checkbox"/> b) The man is strong and tall. <input checked="" type="checkbox"/> c) Is the man tall and strong? <input checked="" type="checkbox"/> d) Is the man strong and tall? 	0
<p>they watched <input type="checkbox"/> they ate <input type="checkbox"/> dinner <input type="checkbox"/> TV <input type="checkbox"/> before</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) They watched TV before they ate dinner. <input checked="" type="checkbox"/> b) They ate dinner before they watched TV. <input checked="" type="checkbox"/> c) Before they ate dinner, they watched TV. <input checked="" type="checkbox"/> d) Before they watched TV, they ate dinner. 	0
<p>the girl <input type="checkbox"/> the present <input type="checkbox"/> the man <input type="checkbox"/> gave</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The man gave the girl the present. <input checked="" type="checkbox"/> b) The girl gave the man the present. 	0
<p>the girls <input type="checkbox"/> the boys <input type="checkbox"/> walking <input type="checkbox"/> were <input type="checkbox"/> with</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The boys were walking with the girls. <input checked="" type="checkbox"/> b) The girls were walking with the boys. <input checked="" type="checkbox"/> c) Were the boys walking with the girls? <input checked="" type="checkbox"/> d) Were the girls walking with the boys? <input checked="" type="checkbox"/> e) The girls were with the boys walking. <input checked="" type="checkbox"/> f) The boys are with the girls walking. 	0
<p>the team <input type="checkbox"/> the girls <input type="checkbox"/> going to join <input type="checkbox"/> are</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The girls are going to join the team. <input checked="" type="checkbox"/> b) Are the girls going to join the team? 	0

	Score
<p>9. <input type="checkbox"/> bone <input type="checkbox"/> lost <input type="checkbox"/> is <input type="checkbox"/> the dog's</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The dog's bone is lost. <input checked="" type="checkbox"/> b) Is the dog's bone lost? 	0
<p>10. <input type="checkbox"/> the boy <input type="checkbox"/> the race <input type="checkbox"/> to win <input type="checkbox"/> going <input type="checkbox"/> isn't</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The boy isn't going to win the race. <input checked="" type="checkbox"/> b) Isn't the boy going to win the race? 	0
<p>11. <input type="checkbox"/> the fence <input type="checkbox"/> to fall off <input type="checkbox"/> going <input type="checkbox"/> is <input type="checkbox"/> the girl</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The girl is going to fall off the fence. <input checked="" type="checkbox"/> b) Is the girl going to fall of the fence? 	0
<p>12. <input type="checkbox"/> on the table <input type="checkbox"/> the ball <input type="checkbox"/> put <input type="checkbox"/> will <input type="checkbox"/> you</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) You will put the ball on the table! <input checked="" type="checkbox"/> b) Will you put the ball on the table? <input checked="" type="checkbox"/> c) Put the ball on the table, will you? 	0
<p>13. <input type="checkbox"/> and <input type="checkbox"/> is running <input type="checkbox"/> is falling <input type="checkbox"/> the girl <input type="checkbox"/> the boy</p> <ul style="list-style-type: none"> <input type="checkbox"/> a) The girl is running and the boy is falling. <input checked="" type="checkbox"/> b) The boy is running and the girl is falling. <input checked="" type="checkbox"/> c) The boy is falling and the girl is running. <input type="checkbox"/> d) The girl is falling and the boy is running. 	0
<p>14. <input type="checkbox"/> is painting <input type="checkbox"/> is cutting <input type="checkbox"/> and <input type="checkbox"/> the man</p> <p><input type="checkbox"/> the girl <input type="checkbox"/> the grass <input type="checkbox"/> the house</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The man is painting the house, and the girl is cutting the grass. <input type="checkbox"/> b) The girl is cutting the grass, and the man is painting the house. <input checked="" type="checkbox"/> c) The girl is painting the house, and the man is cutting the grass. <input type="checkbox"/> d) The man is cutting the grass, and the girl is painting the house. 	0
<p>15. <input type="checkbox"/> the car <input type="checkbox"/> I <input type="checkbox"/> dad bought <input type="checkbox"/> that <input type="checkbox"/> like</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) I like the car that Dad bought. <input checked="" type="checkbox"/> b) Dad bought the car that I like. <input type="checkbox"/> c) The car that I like Dad bought. <input type="checkbox"/> d) The car that Dad bought I like. 	0
<p>16. <input type="checkbox"/> the lamp <input type="checkbox"/> the woman <input type="checkbox"/> the table</p> <p><input type="checkbox"/> put <input type="checkbox"/> didn't <input type="checkbox"/> on</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a) The woman didn't put the lamp on the table. <input checked="" type="checkbox"/> b) Didn't the woman put the lamp on the table? 	0

115

Asked to stop the test!

Sentence Assembly Continued

Score

Score

17. **the** **played** **sister** **and** **and**
brother **the piano** **the guitar**

___ a) The brother and sister played the piano and the guitar.
 ___ b) The sister and brother played the piano and the guitar.
 ___ c) The sister and brother played the guitar and the piano.
 ___ d) The brother and sister played the guitar and the piano.

18. **the girl** **the boy** **a letter** **send** **did**

___ a) The girl did send the boy a letter.
 ___ b) Did the girl send the boy a letter?
 ___ c) The boy did send the girl a letter.
 ___ d) Did the boy send the girl a letter?

19. **it** **it** **I want** **expensive** **even though** **is**

___ a) Even though it is expensive, I want it.
 ___ b) I want it even though it is expensive.

20. **the man** **the boy** **was lost** **whose** **by**
dog **was met**

___ a) The man was met by the boy whose dog was lost.
 ___ b) The boy was met by the man whose dog was lost.
 ___ c) The man whose dog was lost was met by the boy.
 ___ d) The boy whose dog was lost was met by the man.

21. **she left** **she caught** **the house** **the bus** **after**

___ a) After she left the house, she caught the bus.
 ___ b) She caught the bus after she left the house.

22. **was tall** **her head** **who** **the girl** **bumped**

___ a) The girl who was tall bumped her head.
 ___ b) The girl who bumped her head was tall.

Raw Score

Item Analysis for Sentence Assembly

Category	Items
Declarative/Active	
with coordination	4, 13, 14, 17
with prepositional phrase	7, 16
with relative clause	11, 16
with infinitival phrase	8, 10
with direct and indirect objects	6, 18
with subordinate clause	5, 19, 21
with relative clause	1, 21, 22
Declarative/Passive	
Imperative	2, 20
Interrogative	3, 9
imperative	2
with coordination	4
with prepositional phrase	7, 12, 16
with infinitival phrase	8, 10, 19
negative	10, 16
with direct and indirect object	18

MS

M I know what's err a parents/
 it's your mum and dad/
 it's your mum and dad that parents/
 V what do you think, is it your mum and dad only?/
 would you count your brothers and sisters as your parents?/
 M no just your mum and dad/
 family is your brothers and your pets all of them is all your family but
 not a teachers or not your friends/
 V no that's true/
 so when did you come to this school Mathew?/
 M before it was a very long time ago maybe when I was start a school
 and I was visitors or was (.)
 when I was used to be in a unit I used to be in a/
 V in a language unit?/
 M yeah I used to be in Cedar House/
 V where is that?/
 M that's very long time ago/
 it's that Alderwasley Hall School/
 V oh that's the other/right OK/
 M I used to be Tracy's key care/
 you know Tracy she's there/
 now I used to be Ross's and then Katie's/
 I used to be Ross key care but I am his friend/
 V you are talking about all your teachers?/
 M they are key carers so and then, //
 V who is your teacher at the moment?/
 M Vicky/
 V Vicky is your main teacher/
 M yes/
 she's my (2syllables) when you have to learn/
 like you have to listen you understand/
 you was my student when I was your teacher/
 I've got to learn I've got to listen/
 V do you do that?/
 do you listen?/

	IN		
	CN		
	CN		
	IS		
RIC	IS		
AR	RE		
	CN	IR	ESS
	F		
RIC	IS		
	RE	IR	ESS
	CN	IR	ESS
RCC	FIS		
AR	RE		
RIC	IS		
	RE	IR	FILIN
	CN		
	F		
	IN	IR	ESS
	CN		
	CN	IR	ESS
	CN	IR	ESS
RCC	FIS		
	RE	IR	II
RIC	IS		
AR	RE		
RCC	FIS		
AR	RIV		
	CN		
	CN		
	CN	IR	ESS
	CN	IR	THI
RIC	FIS		

M yeah/
 my dad when I was going home my dad says I don't listen and I don't understand but I do/
 I try to/
 V your father thinks that you don't listen?/
 M sometimes I listen and sometimes I don't/
 V so you choose what to listen to/
 M yeah/
 I used to (.) now in Belmont (.) now I used to (.) I used to have a key carer at Belmont called Gail/
 she has a curly hair and had long hair/
 V so that was your friend/
 M yeah she used to be my key carer Gail is/
 now she's my friend/
 so I am Nick's/
 because I am Nick's key care/
 V key care?/
 M yeah Nick/
 you know Nick/
 V no I don't/
 who is Nick?/
 M he's in Belmont so I (.) he's the one like that and a bit like that/
 I said he's cool/
 V so he (.) did he make your hair like that?/
 M no he's not my hair dresser/
 he's the one with like that straight like that so, /
 V he's at your place Belmont/
 is that where you come from?/
 M I don't live in Belmont/
 I live in (.) at a proper house five (.)
 Axley 5 Badger Close/
 it's 5 Badger Close, Axley, Peterborough/
 V oh you are from Peterborough?/
 down south?/
 M yeah/
 V I've been to Peterborough on my way to Norwich/
 M yeah/
 have you got any brothers or sisters?/
 V yes I do/

MRV
 CN
 CN
 RIO - FHS
 AR - RE
 RSCU - FHS
 AR - MRV
 CN
 (IR) - SICS
 CN
 IR - TOPIC
 RSCU - FHS
 IR - RE
 IR - ESS
 CN
 CN - IR - ESS
 CN
 (IR) - TMI
 RSCU - FHS
 IR - (unnes...)
 RSCU - EN
 IR - ESS
 RE
 RIO - LS
 IR - RE
 IR - ESS
 CN - IR - ESS
 RIO - FHS
 AR - RE
 CN
 IR - ESS
 RSCU - FHS
 FHS
 RE
 CN
 CN
 CN
 RSCU - FHS
 IR - TMI
 AR - MRV
 IN
 F
 RIO - IS
 RE

M	I've got a sister/				
V	just one sister?/	RQCN	FIIS		
M	just one sister/		RE		
V	who is the oldest?/	RIO	FIIS		
M	me, I am the oldest one/		RE		
V	how about you have you got brothers or sisters?/	RIO	FIIS		
M	two brothers no sisters/	AR	RE		
V	two brothers?/		F		
M	are they older than you or younger?/		FIIS		
V	one's younger one's oldest/		RE	IR	ESS
M	so you are in the middle/	RQCN	FIIS		
V	yes/		RMV		
M	what's your sister's name and what's your name?/	RIO	IS		
V	my name is Vesna/		RE		
M	yeah/		F		
V	my sister's name is Alexandra/		RE		
M	you know my name is Mathew/		IN		
V	yeah/		RMV		
M	what are you brothers' names?/	RIO	FIIS		
V	the older brother is Donathan and the younger brother is Luis/		RE		
M	that's nice/		F		
V	so Lou had his brithday November 27th/		IN	IR	TMI
M	right/		F		C too
V	so he's nine/		FN		was
M	Luis is nine/		F		eloh
V	Luis is nine and so I had my birthday on March 1 so I am eleven now/		FN		
M	oh you just had your birthday/	RQCN	FIIS		
V	yeah/	AR	RMV		
M	I'm gonna start Middle School in September/		ON		
V	oh brilliant/		F		
M	I want to in summer but I am start in September/		ON	IR	ESS
V	that's take very long long holidays/		ON	IR	ESS
M	are you going anywhere for your holiday?/	RIO	IS		
V	on Easter/	RQCN	FIIS	IR	ESS
M	yeah/		RMV		
V	I am come round erm (.) some people's house come round Jonathan's house/		RE	IR	ESS
M	you know Jonathan/	RQCN	IS		
V	oh yeah/		RMV		
M	are you a friend of Jonathan's?/		FIIS		

M	yes/ I wanted to sleep somewhere else but at home but I can't/ cause my mum says I (.) remember I told mum about Jonathan went to Duncan's house for a weekend/ so Jonathan went round my house on February, /	RMV CN CN CN F	IR IR IR	ESS ESS ESS
V	right/ now you want to go to Jonathan's house?/	AR RMV FIS		
M	yes/ I come at Jonathan's house but it's not whole holidays but it's maybe three or two/ but he slept to his nice once Sunday once Monday/	CN CN F	IR IR	ESS ESS
V	right/ and we sleep in the living room/ I'll sleep into his sofas and he sleep in sea (.) in three and then he sleep in two and then I sleep in three/ so my brother went to school on Monday but not this week/ you know why because we don't sleep (.) we don't go to school when school is finish when we go home/ my mum used to take me erm on Monday my dad or my mum/ dad takes me on Tuesday so/	CN CN CN CN CN CN CN CN	IR IR IR IR IR IR IR IR	ESS TMI TMI ESS ESS
V	right/ and then we went to a erm I don't now what that's called/ those big shops and I had a chocolate bar galaxy/	F CN CN F	IR IR	ESS TMI
V	oh right/ from those supermarkets you mean/	RMV FIS RMV		
M	yeah/ oh right/ so when was that?/ when did you have your galaxy?/	F CN CN F FIS		
M	that was in a shop/ yeah but when?/ was it when Jonathan was round or no?/	RMV FIS RMV FIS RIS RIS	IR	FIS
V	yeah/ right with Jonathan when he came round/ yeah/ so you are spending some of your Easter holiday in Jonathan's house/ yeah/ are you going anywhere else with your parents?/ I don't know with my parents/ I don't know/	AR RMV RMV FIS RMV FIS RMV FIS RE CN	IR IR IR IR IR IR IR IR	ESS ESS ESS ESS ESS ESS ESS ESS

	I think I am go in caravan/		CN	IR	ESS
	I don't know/		CN		
V	you think you are going to where?/	RCC	FIS		
M	I don't know/		RE		
	maybe caravan you know caravan/		CN		
V	oh caravan right/		F		
M	I went to amusements those mashines you know/		IN	IR	ESS
	I played with my dad called a Hazzle Dead/		CN	IR	ESS
V	and what (.) did you get anything?/	RIO	FIS		
M	I was two player and dad was one player/		RE	IR	ESS/
	he is the one with a jacket brown jacket and I was in black (.) clothes so				IT
	he had a red gun I had a blue gun I had/		CN	IR	ESS
	and I was two player and he was one player/		CN	IR	ESS
	and then we did well/		CN		
	but my mum (.) I played with my mum she's don't do us so is my brother		CN	IR	ESS
	called Luis but he didn't do us/				
	so Donathan he didn't play cause he playing on Bingo/		CN	IR	ESS
V	[*oh right/		F		
M	you know Bingo/]	< I >			
V	yes/	RCCN		CN	
M	if I say one oh ten then you cover them, /		RNV		
V	that's right if you have them/		CN	IR	FKK
	if you have the numbers/		F		
M	then you maybe press it or maybe you shout Bingooooo/		F		
V	which is very nice if you get your Bingo/		CN	IR	TLT
M	yes/		F		
	when I was defeating the boss you have to fight in(.)in a hard the first boss and				
	then when I and then I said Mathew said me I said to dad you take on the big boss		IN	IR	ESS
	that big erm horses that back and then I'll take them in when he (.)				
	dad says 'No that's not fair I'll take them that side and you take them that side				
	and then we fight up the boss/				
V	oh right/		F		
	so what big boss, the big boss of what?/	RCC	FIS		
M	the big (.) that giant erm bear large you have to shoot/		RE	IR	ESS
	but you don't shoot all the doctors but they be naughty they give you a life/		CN	IR	ESS
	then if you shoot the shot the sun bees they dead peoples you do/		CN	IR	ESS
V	are you talking about the amusement center?/	RCC	FIS		
M	yeah/		RNV		
V	the one you went to/ to the amusements?/	RCCN	FIS		

M yeah/
it's not the thing but it's just summer/
V right/
M and it's too pleasant I saw Tom Cruises/kraisis/ but Tom Cruises won't play
I think a house a dead (1 syllable) and Tom Cruises see it's two place for
house of dead/
you can (.) when you play ?ball of soup like if I can be one player or two player,?
V yeah./
M you can be one player or two player by yourself and all you could play (.)
the two player is driving and one player is driving but I saw those
from the cards together when they driving the doctor said Oh no because
he don't wanna get eaten so he (.) one player is driving and two player is in a front
and get (symbolic noise)(.) he get out of car but he didn't shut the door/
they leave it open then it's carry on/
V that's the game?/
M yes/
V oh right/
M did you (.) are you taping it?/
V yeah/
do you want to listen to it afterwards?/
M hope so/
V if you'd like to no problem/

RNV		
CN	IR	ES
F		
IN	IR	ES
		TM
CN	IR	ES
F		
CN	IR	ES
CN	IR	ES
RI	IS	
AR	RNV	
	F	
RI	IS	
	RNV	
RI	IS	
AR	RE	
	IN	

JW's Frog story narration – Macro and micro structure analysis

JW started her story with a conventional setting (CU1), which was followed by an initiating event which set the story into motion (CU2 & CU3).

1. *Once upon a time there was a boy and he had a frog and his name was Tony!* ref tie-comp
2. *and when he was asleep the frog jumped out of the bowl!* S
3. *then the boy found out that the frog was gone!* IE
(he took his dog (.) he took his thing (.) I can't remember!) IE
not analysed maze

There was no internal response nor internal planning but a series of actions on the part of the main characters, the boy and the frog (CU4-9).

4. *he took his jumper on and the dog was in the bowl!* A
5. *and the boy shouted "where are you frog?"!* A
6. *and then the dog jumped down!* A
7. *and then the boy got down and caught the dog!* A
8. *then he shouted: "Frog, where are you"?!"* A

NB: JW did not realise the causality between the several events, she only listed them as a sequence without showing awareness as to how they may be causing each other.

9. *(.) they went (.) the climbed up the tree and then they looked through the hole!* A
not analysed maze

CUs 10 to 12 were coded as consequences with a question mark because there was no clear indication as to how they were actually a result of the previous actions. They seem like a series of events.

10. *then they fell down again!* ?C
11. *and all the bees came out!* ?C
12. *and the dog ran away!* ?C

What follows in CU13-22 is again a series of actions without any evidence that the child was aware of how these actions may be causally ordered.

13. then the boy said: "Frog, dog, where are you?"! A
14. then the boy called: "Frog, frog, where are you?"! A
15. and then the dog was there on the reindeer! A
16. the reindeer said: "Come back here at once! I want you for dinner!" A
17. and then "I got you!" A
18. and then the boy (.) and the boy fell over! A
19. then the boy got in the pond to find the frog! A
20. then he said "Frog, where are you?"! A
21. and they both looked under the tree stump! A
22. "There you are" shouted the boy! A

The story ends with some sort of a resolution which is rather vague, as the child did not explicitly say in the CUs which preceded the resolution that the boy had actually found the frog.

23. and then the boy went home! ?R
24. and then he said: "Come on, let's go home"!! ?R

pron ref - pronominal tie
 dem - demonstrative tie
 comp - complete
 incomp - incomplete
 add - additive tie
 temp - temporal
 lex (repet) - lexical (repetition)
 ref (comp)

add - 4 (complete)
Temp - 16 - complete
<u>Pronom</u> 8
comp - 4
incomp - 4
<u>Dem ties</u>
<u>21</u> comp 17
incomp 4
lex ties (repet)
18 (all comp)

temp (comp)
 temp (comp)
 dem (comp)
 temp (comp)
 dem (comp)
 temp (comp)
 dem (comp)
 temp (comp)
 temp (comp)
 temp (comp)

APPENDIX 2.

Contents:

WS participants' Frog Story narrations:

- MW's Frog Story
- DW's Frog Story
- BW's Frog Story
- CW's Frog Story
- JW's Frog Story

MW's Frog Story

V *this is a story about a boy a dog and a frog/*

M *dog and frog rhyme/*

V *well done/*

how did you know that?/

M *because it does/*

V *well that's true/*

very clever/

so this is a story about a little boy a dog and a frog/

M *what are their names?/*

V *uhh it's up to you/*

you have to give them some names/

now would you like to tell the story to your grandmother/

M *yes/*

V *because she can't see the book/*

you tell nanny what it is/

M *a boy a dog and a frog/*

V *yeah but that doesn't say much/*

you have to say something more/

M *the boy is called Jack the dog is called Rosa and the frog is called Mathew/*

V *right/*

and what are they doing there?/

M *sitting and having fun/*

V *that's right/*

and see what happens/

M *then they need to go sleeping/*

V *the boy?/*

M *yeah Jack is sleeping/*

V *yes/*

M *then the frog jumps out/*

V *well done*

and then what happens?/

M Jack called 'Frog where are you?' /
V and where is the frog? /
M no /
V where is it? /
M dog /
V where is the frog? /
M (3.00) don't know /
V uh we don't know /
that's right /
it's gone /
what happens? /
M the boy looked 'are you there'! /
V where is he looking? /
M in his shoe /
V in his shoes /
in his boots /
M yeah /
V what is the dog doing? /
M looking there /
in that cup /
V yeah looking at that jar to see whether the frog is still in the jar /
and then? /
M the frog is gone /
V the frog is gone /
what is the boy doing there? /
M calling /
V yeah what is he calling? /
M 'Frog'! /
V 'where are you'! /
what is the dog doing? /
M still looking /
V still looking with what? /
M in the jar /
V still looking in the jar? /

M yeah/
V yes/
*and then what happens there?/
see there/
M* the dog has gone away/
V and,/
M they drop/
V what dropped?/
M the jar/
V the jar yes/
M the boy is cross/
V why is the boy cross?/
M because the dog Rosa,/
V because the dog,/
M smashed the jar/
V because he smashed the jar yes/
*and then what do the boy and the dog do?/
M* go for a walk and they call/
V that's right/
*how are they calling?/
M* 'Froggy where are you'!
V yes/
*where is the boy looking there?/
M* there/
V what could that be?/
M frog/
V yeah but what is this?/
M hole/
V hole yes/
*who lives in that hole?/
M* a mouse/
V a mouse or a mole/
M yes/
V so the boy is,/

what is the boy doing?/

M are you a frog?/

V uh-huh/

what does the mole say?/

M 'I'm not a frog'!/

V 'I'm not a frog'!/

what else is the boy asking the mole?/

M are you a frog?/

V or 'have you seen my frog'?/

M 'have you seen my frog'/'

V or what does the mole say?/

M no/

V no/

and what does the dog do?/

M looks up the tree/

V yeah/

what's that?/

M beehive/

V yeah a beehive/

what do they do next?/

M Jack isn't back still and the dog/

I think there must live an owl/

V why is the dog running away?/

M because he's still looking/

V yeah/

what's that?/

M he's running/

V he is running but who is chasing him?/

M wow!/

V wow/

what's that?/

M bees/

V the bees/

they are chasing the dog/

M why?/

*V why do you think?/
what did he do?/
what did the dog do?/*

M looked at the beehive/

*V looked at the beehive and the bees got very angry so they are chasing the dog/
and what happened to the boy?/*

M the boy said 'Go away you bees'!/

*V yes/
what is the owl saying to the boy?/
see the owl/*

M I've not seen your frog/

V that's right/

M he looked from the stone/

V that's right and then he,/

M calls/

V he calls again/

M where are you frog?/

V and see what happens/

*M a goat/
a reindeer/*

*V a reindeer/
so what happened to the boy?/*

M he's still calling/

V he's still calling but how did he end up on the reindeer?/

M he's riding/

*V well yes he's riding the reindeer/
is the reindeer happy do you think?/*

M yeah/

*V is he?/
see what he does to the boy on the next one/*

M he throws him off because the reindeer is not happy/

*V that's right/
so what happens to the boy and the dog?/*

M they are swimming on into the puddle/
V that's right/ and,/
M the boy/
V and the dog,/
M yeah/
V they are both where?/
M there/
V what's that?/
M sea/
V in the pond yeah?/
they've both fallen off because the reindeer threw the boy off/
and then,/
M and then this/
V in that log/
what does the boy say here to the dog?/
M shhhhhh/
V yes to be quiet/
*and then what's behind [*the log?/*
M frog/]
V some frogs/
is that the boy's frog?/
M no/
V no but see there/
how many frog are there?/
M one two three four five six seven/
V yes there are seven frogs/
what do you think they might be?/
M a family/
V a family of frogs that's right/
who are the (.) who are the parents?/
M there/
V these two yes/
and these,/
M children/

V *yes they are little frogs/
so what did the boy do?/*

M *said (3 syllables) bye/*

V *yes and what is he having in his hand?/*

M *a frog/*

V *a frog/
do you think he found his own frog or did he get a new one?/*

M *got a new one/*

V *he got a new one from this family of frogs?/*

M *yes/
he didn't find it/*

V *he didn't find his own/*

M *let's play the game/*

V *which one?/*

M *frog where are you/*

V *OK/
can you tell me the story now without looking at the book?/*

M *yeah/
there was a boy and a dog who lived with a frog/*

V *uh-huh/*

M *and the frog ran away/
the boy called and called and called and called but he couldn't see any frog/*

V *mhm/*

M *and then he found some animals/*

V *that's right/*

M *but a reindeer jumped into water/
And then they caught animals and he got a new one/*

V *that's right/
would you like to have a frog for a pet?/*

M *yeah/*

DW's Frog Story

- D dog, frog and a boy/
V what are they doing?/
D they (.) they (.) they (.) they (.) they (.) sitting (.) sitting in a glass/
V in a glass?/
are they all sitting in a glass?/
D no the frog/
V the frog is sitting in a glass/
where are the boy and the dog?/
D out/
V what happened next?/
Danika, what happened next?/
D the boy is tired/
and the frog is out of the glass/
V what happens then?/
look at the next picture/
D the boy is awake/
V uh-huh and?/
D (5.00)
V the boy is awake/
where is the frog?/
D he's not there/
V no/
D he is gone now/
V right/
so what do they do?/
D look/
V look what's happened next/
what's happening there?/
D they're trying to look for the frog/
V they are trying to?/
D look for the frog/*

V *that's right/
so what are they doing?/*

D *(symbolic noise)*

V *what's the boy doing?/*

D *he's looking for the frog/*

V *where?/
where is he looking for the frog?/*

D *in the house/*

V *that's right/
what's the dog doing?/*

D *he been trying to look for it/*

V *where?/*

D *in the glass/*

V *that's right/
and what's happened there?/
what happens on the next one?/*

D *err (8.00)*

V *are you looking at it?/*

D *(5.00)
he is (.) little boy is looking for it/*

V *uh-huh/
what is he doing here out from the window?/*

D *he's looking out for the frog/*

V *what's he saying?/*

D *frog where are you?/*

V *well done/
what happens there?/*

D *(symbolic noise- suggesting an object falling down/
doggy is fall down/*

V *that's right/
and?/*

D *the boy is mad/*

V *he's/
why is he mad?/*

D *because he can't find the frog/*
V *is it?/*
what happens with the glass/
D *it's smash/*
V *how did it smash?/*
D *it went (symbolic noise)*
V *right/*
and then what happened next?/
D *they went Frog Frog, where are you?/ (almost screams)*
V *uh-huh/*
where are they?/
where are the boy and the dog?/
D *in the woods/*
V *that's right/*
can you keep on telling me the story/
D *the dog and frog is there/*
V *is that the frog?/*
D *no/*
V *what is it?/*
D *a mouse/*
V *what's the dog doing there?/*
D *he's looking for the frog/*
V *where?/*
he's looking for the frog where?/
D *in a mouse cage/*
V *in a mouse cage?/*
is that a mouse cage?/
D *yeah/*
V *what are these?/*
D *bees/*
V *so do bees live in a mouse cage?/*
D *yeah/*
V *do they?/*
D *yeah/*

V *OK/
and what happens here?/*

D *he couldn't find him/*

V *no/*

D *can't find/*

V *what happened to the dog?/*

D *it's (.) it's looking for the frog/*

V *where?/*

D *outside in the wood/*

V *that's right/
but what is this?/*

D *bee/*

V *that's a bee/
so this is a bee hive/
and then?/*

D *I want to have these stickers/*

V *and then what happens next?/*

D *oh he's not there/*

V *who is not there?/*

D *frog/*

V *no/
but what's happened to the boy?/
what's happened?/*

D *he's got stung/*

V *by what?/*

D *they bite him/*

V *right/
and what happened to the dog?/*

D *he (.) he (.) he (.)*

V *what happened to the dog?/*

D *he was looking for somebody/*

V *right/
and what are all these?/*

D *bees/*

V *and what are they doing?/*
D *buzz (symbolic noise)*
V *what are they doing?/*
D *they are flying for the dog/*
V *right/*
and then?/
D *and then the (5.00)*
he went to see...
V *mm?*
what do think is happening here?/
D *I can't see/*
V *you can't see?/ (I moved the book closer to her)*
D *(4.00)*
he's looking for the frog/
V *he's looking for the frog where?/*
D *there/*
he is in there cause I can see his lags pointing out/
V *and then what's the boy doing there?/*
D *he's on somebody/*
V *what is he doing?/*
D *he's sitting on somebody/*
V *he's sitting on somebody?/*
do you think that's somebody?/
D *yeah/*
V *right OK/*
and what happens next?/
D *(10.00)*
V *what happens?/*
D *err he's (.) he's on him/*
V *on who?/*
D *on the man/*
V *is it a man?/*
D *no it's a (.) it's a (.) I'll ask somebody/*
V *so what happens to the boy?/*

D *tonight I am having a fish (unintelligible)*
Becky and Emily

V *your friends Becky and Emily?/*

D *yeah/*

V *so what are you doing with them?/*

D *fish (.) fish (.) and the the../*

V *shall we finish the story?/*

D *Ember is shouting/* (Ember is D's baby sister)

V *oh yes/*
so what happens to the boy there, what happened?/

D *he sat on him/*

V *right and where are they going?/*

D *to look (.) to bang him out/*

V *oh right/*
what happens there?/

D *where?/*

V *look at this/*
look at that picture/

D *uh/*
he's dying/

V *he's dying?/*
what happened to the boy and to the dog?/
what's going on there?/

D *(4.00) I don't know/*

V *you don't know?/*
see they are falling down/
because this deer has thrown them out/

D *yeah/*

V *yeah?/*
he's thrown them out so they are not on the deer anymore/
they are falling down from the rock/
and see where they end up/

D *erm/*

V *where they end up?/*

D *is that the dog?/*
V *that's the dog with the boy/
so where did they fall?/*
D *in the pond/*
V *in the pond/
yes/
that's where they are they fell in the pond/
and then?/
and then what happens next?/*
D *froggy froggy where are you?/*
V *that's it/
the boy is looking for the frog still/
and have they found it yet?/*
D *no/*
V *no they haven't/
and in the end?/*
D *they found it/*
V *where?/*
D *uhhh, and they've got some kids/*
V *that's right/
who are these?/*
D *frog (.) frogs (.) frogs (.)*
V *this is the frog mummy and daddy yeah?/*
D *yeah/*
V *and these are all the kids/*
D *yeah/
I am going to call Ember/*
V *are you going to call Ember?/*
D *Ember/*
V *Ember is your sister/*
D *(some sounds)*
V *and then what happens in the end?/*
D *they find it/*
V *and what is he saying there?/*

D /yeeee/

V what is he saying to the other frogs?/

D thank you/

V thank you/

and what else?/

D bye/

BW's Frog Story

1. *the boy sat down/* S
2. *he looked at the frog/* S
3. *the dog looked at the frog inside..!* S
4. *the boy was crowding the dog/* S
5. *the boy and the dog were crowding around the frog/* S
6. *they were in the(.) it was night time/* S
7. *the light was on/* S
8. *the boy went to bed/* S
9. *and the dog went to bed/* S

There was an initiating event which set the story into motion (CU 10) which was followed by several attempts on the part of the boy and the frog (CU11-16).

10. *and they (.) and the frog got out from the pot/* IE
11. *the frog (.) the dog looked inside/* A
12. *the dog went to the pot/* A
13. *the dog put the head into the pot/* A
14. *the boy looked into the boot/* A
15. *the dog went looking out of the window with the pot on his head/* A
16. *the boy's calling: Frog! Frog! Come here frog!* A

CU 17 is a consequence of CU15 and CU16 was coded as the internal response. CU19 and 20 are consequences of CU17.

17. *the dog crashes as the pot cracked open/* C
18. *the dog was happy/* IR
19. *the boy, he got angry/* C
20. *the dog licked his face/* C

CU21 is another attempt on the part of the boy. It was difficult to provide codes was CU22 and CU23 because they do not fit any of the categories of the current framework used for fictional narratives. They seem to be close to what was coded as

setting, however given that they do not occur at the beginning of the story but in the middle of it and follow an attempt of one of the main characters, they were not coded and marked with a question mark.

- | | | |
|-----|---|---|
| 21. | <i>the boy called the frog/</i> | A |
| 22. | <i>there is a house in the background/</i> | ? |
| 23. | <i>the bees were flipping and flapping/</i> | ? |
| 24. | <i>the bees went out of the beehive and tried to sting the dog/</i> | ? |
| 25. | <i>the (.) the boy went inside the hole with(./</i> | A |

(BW got distracted and wanted a glass of water)

CU27 is a consequence of CU26 even though this is not very explicitly linguistically encoded by BW.

- | | | |
|-----|---|---|
| 26. | <i>the dog looked at the beehive/</i> | A |
| 27. | <i>the beehive was buzzing at him /bzzzzzzzz/</i> | C |

CU 28 is an internal response but it is not clear to what it is an internal response.

- | | | |
|-----|---|-----|
| 28. | <i>the boy was getting angrier and angrier/</i> | IR |
| 29. | <i>the rat was shouting at the boy because he called into the hole/</i> | C/A |
| 30. | <i>the bees were buzzing at the hole really fast/</i> | ? |
| 31. | <i>the king and queen from the beehive went buzzing at him from the hive and spanked the boy with a big (./</i> | C |

CU29 contains both an attempt and a consequence, whereas the same problem with coding as mentioned above occurred again in CU30, where again the child describes an action which is not undertaken by any of the main characters and which could be a consequence of a previous attempt but this is not clearly stated.

Another episode which starts with an attempt on the part of the boy (CU32) and is followed by a series of consequences, which automatically follow from the attempt.

32. *the boy climbed the tree!* A
33. *the owl was getting out of the tree and the owl was flipping and flapping getting untamed!* C
34. *went (symbolic noise)/* C
35. *the boy falled down from the tree!* C

What follows in CU36- 38 is a consequence of a previous attempt, which again is not marked very well but recoverable from the context.

36. *the bees got after the dog really fast!* C
37. *the dog was getting really really..!* ?
- V the dog was getting what?!**
38. *getting hurt by the bees, spank by the bees!* C

BW started another episode which had an attempt on the part of the boy, however BW did not realise that the act that what the boy thought were branches of a tree actually turned out to be the antlers of a deer. That is why CU41 was coded with a question mark. Nevertheless, the attempts described in CU39-42 had consequences described in CU 43-46.

39. *the boy climbed the tree!* A
40. *he called the frog!* A
- this is the funny bit!* maze
41. *the (.) the (.) the (.) the boy went onto the deer's head!* ?
42. *the boy and(.) the dog and the deer went down the grass!* A
43. *the dog and the deer went(.) the dog and the boy went in the pond because the deer put the head (.) the antler down into the pond!* C
44. *the dog went under water!* C
45. *the dog is on the boy's head!* C

The last scene again contained several attempts on the part of the boy and the dog and a not very clear consequence, but it could be recovered by the context even though it was not encoded linguistically.

46. *the boy is calling (.) is pointing (symbolic noise for shush)* A
47. *because the dog is doing (.) looking for the frog as well/* A
48. *the boy went behind the log/* A
49. *and then there they were looking at their kids, the frog and the
(.) the wife/* ?C
50. *the frog wife looking at their baby kids/* ?C

BW's story did not have an explicit resolution. He never stated overtly that the boy found his own frog or whether he took it at home. Thus the story has an end but not a resolution as such.

51. *and the dog looked strangely at the kids and the frogs/* E
52. *then the boy and the dog looked (.) said good-bye to them,
said good-bye to the frogs and went home **peacely** as (.) as calm/* E

CW's Frog Story

- | | | |
|----------|--|-----|
| 1. | <i>it's a night time there/</i> | S |
| 2. | <i>he's sitting down/</i> | S |
| 3. | <i>dog's looking in the frog there, near the frog/</i> | S |
| 4. | <i>the boy is in the bed/</i> | S |
| 5. | <i>dog's woke him up/</i> | ?IE |
| 6. | <i>the dog's got his head in the frog's thingy/</i> | ?IE |
| V | where is the frog?/ | |
| 7. | <i>disappeared/</i> | ?IE |

In CU8 CW provided an internal response of the boy to the initiating event, however as CU9 and CU10 show, CW was not able to say why the boy was not happy.

- | | | |
|----------|--|----|
| 8. | <i>the boy didn't look very happy/</i> | IR |
| V | why do you think he isn't very happy?/ | |
| 9. | <i>because look on his face, he's mad/</i> | ? |
| V | why do you think he's mad?/ | |
| 10. | <i>because he's got (.) he's got (.) he's got ?this on his head/</i> | ? |
| V | what did the dog do there?/ | |
| 11. | <i>fell down/</i> | ? |
| 12. | <i>the glass broke/</i> | C |
| 13. | <i>and he's shouting: 'Help'!/</i> | C |

CU11 was not coded since it was not an attempt on the part of the main character. It could be a consequence but it is not clear how it occurred.

- | | | |
|----------|--|---|
| V | and then what happens next?/ | |
| | (4.00) (the child comments on the fact that the pages aren't numbered/ | |
| V | so what's happening there?/ | |
| | where do you think have the boy and the dog gone?/ | |
| 14. | <i>to the wood, where all bees are/</i> | A |

15. *and the boy's looking down to the hole/* A

With prompts from the adult, CW managed to state another attempt on the part of the main characters (CU14 and 15), however the consequences of these attempts were not immediately clear, which is why CU16 and 17 have not been given specific codes, however with further prompting from the adult, CW manages to state the consequences of the attempt in CU15 in CU 19, 20 and 21.

V what do you think he's looking for?/

16. *frog/* ?

V what is he saying there?/

17. *"it's my house"!/* ?

V what do you think the boy's saying there?/

What follows is an attempt on the part of the boy (CU18) and multiple consequences resulting from the attempt (CU19-21).

18. *"Frog, are you in there"!/* A

19. *and here's a squirrel/* C

20. *comes out and says: "No, there's no frog in here"!/* C

21. *and the boy's on the floor/* ?C

CW did not quite see how the bees happen to chase the dog and the boy, he states it as a matter of fact. Since the CU22 and 23 are not really attempts nor clearly consequence of any attempt that had occurred before, they were not coded.

22. *the bees are pushing their way at him/* ?

23. *the dog's on the tree there/* ?

24. *and the boy's running to the tree trying to get in there/* A

V why do you think he's in there?/

25. *so he can see if he could find his frog in there/* A

Following the boy's attempt in CU24 and 25, there some more clear consequences, presented in CU 26 and 27. It is not clear in CU28 whether the dog was going wild or the bees, therefore however it was clear that what happened was a consequence.

26. *and then owl's come out and all the bees are following the dog!* C
27. *and the dog's running away!* C
28. *gone wild!* C
- V and what do you think the owl's saying?!**
29. *"there is no frog in here"!* C

In what follows, CW clearly presented the boy's attempt in CU30, however he completely misinterpreted the reindeer's role in the story. Thus he barely describes the fact that the reindeer appears without noticing that it was actually a consequence resulting from the boy's attempt to call the frog from what he thought were branches of a tree. CW was aware though of the act that the reindeer threw the boy and the dog in the pond.

30. *the boy is trying to get up on the rock, shouting "Frog!"!* A
31. *and the reindeer's come!* ?
32. *got him on the back!* ?
33. *the dog's running there!* ?
- I wonder what's he going to do to him!* maze
34. *it chucked him in the pond with the dog!* C
35. *they are wet!* C

The last series of attempts on the part of the boy was in CU36 and 37, which have a clear consequence in CU38 and CU39. CW ends the story with a resolution in CU40.

36. *and he's telling dog to be quiet!* A
- V yes, why?!**
37. *because he's gonna have a look in there to see if he can find the frog!* A
38. *and he finds some frogs there!* C
39. *he's got him!* C

V **what happened in the end?!**

40. *he got his frog back and he's waving good-bye!*

R

JW's Frog Story

JW started her story with a conventional setting (CU1), which was followed by an initiating event which set the story into motion (CU2 & CU3).

1. *Once upon a time there was a boy and he had a frog and his name was Tony/* S
2. *and when he was asleep the frog jumped out of the bowl/* IE
3. *then the boy found out that the frog was gone/* IE
he took his dog (.) he took his thing (.) I can't remember/ maze

There was no internal response nor internal planning but a series of actions on the part of the main characters, the boy and the frog (CU4-9).

4. *he took his jumper on and the dog was in the bowl/* A
5. *and the boy shouted "where are you frog?"/* A
6. *and then the dog jumped down/* A
7. *and then the boy got down and caught the dog/* A
8. *then he shouted: "Frog, where are you"?!/* A

NB: JW did not realise the causality between the several events, she only listed them as a sequence without showing awareness as to how they may be causing each other.

- then the boy said: xxxx* maze
9. *they went (.)the climbed up the tree and then they looked through the hole/* A

CUs 10 to 12 were coded as consequences with a question mark because there was no clear indication as to how they were actually a result of the previous actions. They seem like a series of events.

10. *then they fell down again/* ?C
11. *and all the bees came out/* ?C
12. *and the dog ran away/* ?C

What follows in CU13-22 is again a series of actions without any evidence that the child was aware of how these actions may be causally ordered.

13. *then the boy said: "Frog, dog, where are you?"*/ A
14. *then the boy called: "Frog, frog, where are you?"*/ A
15. *and then the dog was there on the reindeer*/ A
16. *the reindeer said: "Come back here at once! I want you for dinner"*/ A
17. *and then "I got you"*/ A
18. *and then the boy (.) and the boy fell over*/ A
19. *then the boy got in the pond to find the frog*/ A
20. *then he said "Frog, where are you?"*/ A
21. *and they both looked under the tree stump*/ A
22. *"There you are" shouted the boy*/ A

The story ends with some sort of a resolution which is rather vague, as the child did not explicitly say in the CUs which preceded the resolution that the boy had actually found the frog.

23. *and then the boy went home*/ ?R
24. *and then he said: "Come on, let's go home"!*/ ?R

APPENDIX 3.

Contents:

SLI participants' Frog Story narrations

- BS's Frog Story
- TS's Frog Story
- MS's Frog Story
- SS's Frog Story
- JS's Frog Story

BS's Frog Story

1. *the boy and the dog are asleep and the frog jumps out of the bowl/* IE
2. *they wake up and then they didn't see the frog/* IE
(3.00)
3. *it jumped out of the jar/* IE

BS did not include any internal response from the characters nor internal planning. The IE was followed by attempts taken by the main characters (the boy and the dog) and the actions were followed by consequences.

4. *he was looking for it in the shoe or sock/* A
5. *the dog put his head in the jar/* A
6. *the boy was shouting 'Frog where are you'!* A
7. *and the dog still had the jar on his head/* A
8. *and the dog fell out of the window/* C
9. *probably his head's stuck in the jar/* C
10. *but no wait a minute it's smashed/* C

Thus CUs 4-7 list the attempts that the boy and the dog undertook in order to achieve their goal, i.e. find the missing frog. CUs 8-10 refer to the consequences resulting from the attempts undertaken.

In the following CU, BS includes an internal response (IR) of one of the main characters.

10. *the boy was cross/* IR

BS then starts a new episode with an attempt on the part of the two main protagonists to find their frog.

11. *and then they shout and then the boy shouted for (.) for the frog to come 'Frog where are you'!//* A
12. *and he was sniffing at the bees/* A
13. *the boy looked in a hall/* A

14. *the dog was trying to eat the bees and the honey!* A

The boy's attempt in CU 13 is followed by an internal response on the part of the boy which is expressed in CU 15.

15. *the boy thought it smelled!* IR

The IR is then followed by a consequence of the previous attempt in CU 13 as CU 16 shows:

16. *it's a mole!* C

The consequences of the dog's attempts (in CUs 12 and 14) follow in CU 17:

17. *the bees came out and tried to chase the dog!* C

Again this is another obstacle to the main characters' attempt to reach their goal. (in this case the obstacle involves the dog).

BS then continues with another involving one of the main protagonists into another attempt followed by a consequence (CU 18 and 19). This can also be viewed as another obstacle that the protagonists have to overcome in order to achieve their goal.

18. *and the boy was looking for the frog in that tree!* A

19. *and an owl came out of the tree and the boy fell down!* C

The following CU is a consequence of a previous attempt for which there was already a consequence (CU20).

20. *and the bees chased the dog!* C

What follows in CU 21 and CU22 is another attempt and a consequence. However, there are not enough clues that there is an obstacle here as BS fails to comment on the fact that the boy falls off the tree because the owl came out of the hole.

21. *he was trying to climb on top of the rock/* A
 22. *it's an owl/* C

Another series of attempts and consequences follows. There is another obstacle in CUs 23 to 29 with the boy and the dog falling into the water.

23. *the boy climbed on top of the rock and looked at the frog and
shouted 'Frog where are you'/'* A
 24. *then suddenly a reindeer (.) a deer came/* A
 25. *and the deer chased the dog/* C
 26. *and the boy err (.) was on top on the reindeer/* A
 27. *and then suddenly they fell into the water/* C
 28. *and the rain deer was watch (.) and the deer was watching them/·* C
 29. *and they fell into the water/* C

CU 29 has two roles: it is a consequence of 26 but at the same time it is an initiating event for the internal response on the part of the boy, which follows in CU30. The IR is followed by an attempt (CU31) and a consequence (CU32).

30. *and then the boy thought he could hear a noise and so did the dog/* IR
 31. *the boy went /shhh/ and looked behind the log/* A

The following two CUs were not counted as they are spontaneous comments on the part of BS.

*let's see how many frogs he found/
one two three/*

32. *and they saw nine frogs and they took one away so that makes eight/* C

The story ends with a resolution (CU33 and CU34).

33. *and at last they found the frog/* R
 34. *he said goodbye to the frogs and thank you/* R

TS's Frog Story

1. *he was looking at the frog and the dog went inside the tub instead and looks at the frog/* S

The introductory CU was followed by an initiating event which helped in setting the story into motion:

2. *and the frog got out at night time/* IE
3. *and then the boy said: "hey where is the frog gone"?* IE

There was no internal response nor internal planning. The IE was immediately followed by attempts of the main characters to reach a goal, i.e. find the frog. TS only focuses though on the attempts undertaken by the dog and does not mention what the boy did.

4. *and the dog stucked his head into the bottle and looked inside with his head stuck in the bottle/* A

This attempt on the part of the dog was immediately followed by consequences in CU5 and CU6.

5. *he dropped and smashed the glass/* C
6. *"naughty doggy" said the boy/* C

There was a series of attempts in CU7-9 followed by a series of consequences in CU10-12:

7. *he looked for his frog and he can't even find it/* A
8. *the dog tried the beehive and he climbed and he knocked the beehive down/* A
9. *he looked in the tree/* A
10. *the bees were after the dog/* C
11. *the boy fell down before the bees stung him/* C

12. *while here the bees chasing after the dog!*

C

CU13 was ambiguous as it provided an attempt on the part of the boy to find the frog but at the same time it also provided a consequence of CU8 (the bees stinging the dog).

13. *he looks and looks for the frog and the dog (.) the dog was stung!*

A/C

CU14 and CU15 were not coded as they were a mere description of an action rather than an attempt or a consequence.

14. *the antelope grabbed the hold of the boy and then (.) and then chucked him
down the cliff into the water!*

?

15. *and then the dog and the boy was safe!*

CU16 was an end. TS was not going to provide a resolution had it not been for the prompt from the adult (as shown in CU17 and 18).

16. *so they looked and looked for the frog and then the boy (2:00) found,
that's the end!*

E

V you have to say something about this/

17. *wellp I think (.) I think they sink!*

R

18. *I think the frog found a home!*

R

MS's Frog Story

MS's story starts with a conventional setting, as CU1 shows:

1. *once upon a time(.) there was a boy called (.) (do I call it any boy)?/* S

After the adult responded that it was OK for MS to give a name to the boy, he continued introducing all the characters giving them names, which all forms part of the story setting (S).

2. *there is a boy called Joe/* S

3. *and he is about 7 years old and his dog's called Molly/* S

4. *and them two see the frog in a (.) in a jar and (.) and then they was smiling/* S

5. *they was happy/* S

After MS has established the setting, he continued with an initiating event (IE), which consisted of four communication units and which set the story into motion.

6. *(and what happens (.) and what happens then (.) then err Joe was asleep and so was Molly/* IE

7. *then (.) once then the frog went out of it then it's walk off/* IE

8. *(and then happens) it's a night time then once and it's morning then /ka/ and Joe and Molly waited and he said "Oh" Joe said "where's the frog"?/* IE

9. *and then (.) and err and so they (.) was lost him/* IE

The initiating event was followed by an internal response (IR) on the part of the boy (CU10), immediately followed by an internal plan (IP), i.e. an idea of how to solve the problem (CU11) and again an internal response (CU12).

10. *the boy was looking at dog and he said "Where is the frog"?/* IR

11. *"Oh no I'm just gonna go out there then look in my bedroom"/* IP

12. *Joe was looking he said (.) "Oh no, oh no, I can't do this, where is the frog"?/* IR

The IP and IR were followed by a series of attempts on the part of the boy accompanied by the dog in order to find the frog.

13. *and Joe said "Come on Molly let's look for him"'/* A
14. *then one of them said (.) "Cole I've got out of bed" and he got dress/* A
15. *and then he (.) he looked at his shoe and he looked up, Joe and then Molly is looking at (.) wetting his head in a jar and (.) and (.) and (.) and (.) and Cole (.) and Joe said: "Oh no where is it?"'/* A
16. *(and what happens then (.) and Joe said: "Come on Molly, let's look out of window"'/* A
17. *down they look in the window and (.) and then (.) and then Joe said: "Froggy, frog where are you frog? Where are you?"'/* A
18. *and Molly started to bark/* A

The series of attempts was followed by a series of consequences, i.e. as a result of the boy and the dog looking out through the window, the dog fell and the boy was angry (CU19)¹ followed by the boy's reaction as a consequence of the dog's fall (CU19 – CU22).

(Molly said (.) then Joe looked at Molly and Molly falled down and he(.)) ?

19. *and then Molly said (.) then he fall down (.) then (.) and he said: "Nooo Molly"!/* C
20. *and the boy is a bit worried his dog gonna die so (.) that he's die so (.)* C
21. *and then hands in Mo (.) and then Joe got him and Molly is happy laughing and looking at him but Joe wasn't happy/* C
22. *he said "You naughty boy! What did the price it cost? it cost I bet a lot of money"'/* C

A new episode with a series of attempts (CU23 and CU24) and a consequence (CU25) follows.

¹ Even though because of severe problems with reference cohesive ties, that fact is not very obvious.

23. *(and what happens then), they went in a forest and then (.) and then the dog (.)*
the dog called Molly goes (barking sound)/ A
24. *and Joe said: "Froggy where are you"!* A
25. *then he starting to cry (crying sound)²* C

Another new episode with a series of attempts (CU26 and CU27) was followed by a consequence (CU28).

26. *and then (.) then Molly who's gonna get on a bees the honey then!* A
27. *(what happens then), bee has run or come in and then (.) (and what happens then), Joe was shouting in a mole (.) in a hive in (.) "Froggy"!* A
28. *(what happens then), the mole or the squirrel got up and then (.)*
and he went: "Uhh that stinks"!! C

This sequence (CU26-CU28) is syntactically anomalous and it would be very difficult for the interlocutor to understand what is going on, unless they share the pictures with the child.

Again a couple of attempts (within the same episode) on the part of the main characters follows (CU29 and CU30), although it is not very clear from CU29 whether MS is referring to the dog only.

29. *(and what happens then), he is scratching the tree and trying to get a honey*
and then Molly goes (barking sound)/ A
30. *(happens then), then Molly is jumping up and down!* A

These attempts are followed by what looks like a consequence (CU31) as MS reports that something got broken as a consequence of the attempts in CU29 and CU30. It can also serve as an obstacle to the attainment of the goal.

31. *the honey was (.) and then it was broke and (what happens then,) all the bees*

² It is not very clear from the language structure that MS employs that CU25 is a consequence of the boy's attempts in CU23 and CU24, however if the listener concentrates hard on the context, it becomes clear that the boy cries as a result of his failed attempt to find his frog.

come and try and get Molly!

C

The story continues with a new episode consisting of a couple of attempts on the part of the boy and the dog to find the frog (CU32 and CU33), followed by a consequence (CU34).

32. *then Molly said (barking sound)!*

A

33. *and then the squirrel was looking at (.) Joe and Joe was looking in the tree(440),
he said: "Frog"!!*

A

34. *then he can't find him!*

C

CU35 reports a consequence of an 'unknown' attempt, i.e. we do not know (from MS's use of language structure) what had caused the owl to be angry. The same happens in CU36 where it is very confusing for the listener how the boy ends up riding on somebody's back, even more so that MS puts two events in the same CU without providing any clear connection between them. Therefore, both CU35 and 36 are marked with a question mark.

35. *then the owl was angry!*

?C

36. *then Joe was riding on his back and then he(.) then he goes "Ouch!
You naughty owl"!!*

?C

CU37 and CU38 seem to be a continuation of the consequence of what MS had already mentioned before (in CU31).

37. *(and then(.) what happens then), the bees is going to get Molly!*

C

38. *then (.) and said the (.) then they go(.) then he's gonna get stinged!*

C

The following three CUs (39-41) have been coded as *attempts* on the part of the boy, even though due to severe problems with sentence formulation it is not very clear what is going on within these CUs.

39. *then in the (.) in the rocks they fi (.) they try to find Mo (.) froggy and then
the owl was going down and the owl is going to (.) up a tree!*

A

40. *and then the (.) the boy called Joe(.) he was stand on the rocks doing that (.)/ A*
 41. *you can see he don't wanna get hurt so and the owl say they got a
 (.) horns(.) they get (.) say: "Froggy"!/ A*

The following CUs were not coded as they are not causally connected to what had happened before and they have severe syntactic structure and lexical deficiencies.

42. *but it wasn't, it was a deer/
 and he thought it was a (.)/ ?*
 43. *and what happens then (.) and then they (.) and then Joe was sit:
 "Uh, hey get off"!/*
 44. (&45) *and he started to cheat him! "Get off! Get off now"! he said!*

The following CUs (42-44) are supposed to be consequences of what had gone on before, however since what had happened above was not coded due to severe sentence formulation and word finding problems, CUs 42 - 44 were coded as consequences but marked with question marks.

46. *then raindeer was angry/ ?C*
 47. *the raindeer was very angry/ ?C*
 48. *the raindeer was running to the cliff and (.) and the dog called Molly he was
 running/ ?C*

CU45 was marked with a question mark as it was problematic at the level of sentence formulation combined with severe word finding difficulties. However the context suggests that it should be an attempt of the raindeer to get rid of the boy who accidentally found himself riding on the raindeer.

49. *(and what happens then(.)) then the rain (.) the deer was falling (.)
 was push(.) doing/ ?A*

The following CUs (46-50) are consequences of the attempt in CU45.

50. *then it (.) then Joe was start to fall down:(screaming sound) C*

51. *and Molly goes (barking sound)/* C
52. *then he started to get hurt/* C
53. *(what happens then (.)) then Joe and Molly is in water/* C
54. *and then they get wet and he says: "Oh you wet me dear"! Joe said/* C

A new episode with another series of attempts follows (CU51-60) in which the boy and the dog do their final attempts to find the lost frog.

55. *then (.) happens then (.) Joe who is hearing something but it wasn't a duck/* A
56. *and he said: "Who is that?" said Joe/* A
57. *(barking sound) said Molly/* A
58. *(happens then), then Joe (.) then the dog was (.) Molly was (.) have a little swimming/* A
59. *(barking sound) and Joe said:!/}}/* A
60. *then he try and hear a frog noise and he thinks (.) he don't know whether is a frog/* A
61. *and then (.) so tolds him to shush because: "Shuh Molly because I wanna hear a frog"/* A
58. *(what happens then), they (.) Molly jumped out of tree/* A
59. *and then (.) and he tried to grabbed him and then he don't know where the frog is/* A
60. *and the walnut say (.) says: "I hope the frog's in there" said Joel/* A

A series of consequences (CU61-63) followed the series of attempts.

61. *(happens then) and Joe and Molly was looking at a frog/* C
62. *and then (.) happens then (.) then Joe went up and sit down/* ?C
63. *Joe said: "How did that frog get to its mother or father"/* ?C

The following CUs were not coded, as it was not clear whether they were attempts or consequences. They look like comments on the part of MS, i.e. they were part of the linguistic debris (see Chapter 3...???)

or maybe they are wife and husband/ ?

“How can I got to his wife or husband” / ?
“then how come Cole, you are my children”” said Joe/ ?
and then (.) now the frogs come and they love each other/ ?
the frog is love each other and then,/ ?

The last few CUs (64-70) form the resolution of the story.

64. *then they (.) and then Joe (.) and then (.) happens then (.)*
then they all in the family/ R
65. *happens then, Joe and Molly was (.) they saying good-bye so*
had one other frogs is (.) here they get frog back and/ R
66. *and happens then, they’ve learnt (.) they(.) they was waving (.)*
say good-bye/ R
67. *Joe said: “Good-bye”/ R*
68. *Molly goes (barking sound) R*
69. *and then frogs go (imitates frogs’ sound) R*
70. *and they are happily ever after/ R*

SS's Frog Story

SS did not use a conventional setting to start the story, however she did provide some kind of a setting (CUs 1-6) as a background to what is going to follow next.

1. *this boy has found this frog and he wanted to take it home and his dog's like (.)* S
2. *he's put it in this jar or (.) this jug* S
3. *and his dog goes into the room so he puts his nose in the jar* S
4. *and he doesn't look (.)* S
5. *then the boy just looks for hours to see what the frog is doing and things* S
6. *then the boy went to sleep at ten o'clock or when he finished and the dog layed on top* S

After the setting, SS continued with an initiating event in order to set the story into motion (CU7 and CU8).

7. *and when he was sleeping the frog might jumped out of the glass circle* IE
8. *then when it was morning the dog and the boy was looking at the jar and the frog wasn't in* IE

There was an internal response (CU9), however because of an erroneous reference tie, it is not clear whether the internal response has to do with the boy or the dog.

9. *maybe he looked worried or something* IR

There was not any internal plan, however immediate action followed on the part of the boy and the dog in order to find the missing frog (CU10-12). The action undertaken by the dog was followed by a consequence (CU13).

10. *and the boy checks his clothes in case he gets in them* A
11. *then the dog puts his head into the jar and maybe it's got stuck on him* A
12. *so the boy opened his window to see if he got under* A
13. *and the dog still got the jar on because it's stuck really tight round him* C

CU14 is another internal response on the part of the boy.

14. *and the boy is not worried about him, he's worried about the frog and shouts!* ?IR
15. *and the dog might fall over the window so the boy looks at him!* ?A

The following two communication units (CU16 and CU17) were not coded as it was not very clear what they were because of some erroneous reference ties and inappropriate use of modal verbs, however it is obvious that CU18 is a consequence of an action that had gone before.

16. *and the dog would think he is really worried!* ?
17. *so the boy might jumped over the window!* ?
18. *and the jar smash so the dog's OK so he picks the dog up and he's really angry!* C

Another series of actions follows (CU19-CU24). There is a consequence for one of the attempts, i.e. CU25 is a consequence of CU23.

19. *then they go to the woods or where ever they found him!* A
20. *and he's shouting 'Where are you' 'Where are you'!* A
21. *and there is some bee hive so the bees are kind of around him!* A
22. *the dog's just sniffing at them and he might got sting on his nose!* A
23. *then the boy founds this hole in the ground so he has a look!* A
24. *so the dog's still chasing the bees!* A

25. *then when the boy gets right through this rat or something like bites him on the nose and the dog was like nearly on tree!* C
26. *so the bees like go round and round!* C

Another two attempts on the part of the boy (CU27 and 28) followed by consequences (29, 30, and 31). CU32 was coded as an internal response on the part of the dog.

27. *so he leaves the rat so he goes onto this tree!* A
28. *now he look what's in the hole!* A

29. *then dog got the beehives so the bees are really angry and may go for him again!* C
30. *then the boy falls off the tree and it was an owl what was in it!* C
31. *so the dog runs and the bees chasing him!* C
32. *and the dog might get worried if he goes (.) if the bees go for him!* IR
33. *then this(.) the boy goes to this rock and then owl like follow him!* A
34. *then he climbs the rock and the dog's not there!* A
35. *so he climbs up the rocks and the dog's like really nervous!* A

CU 36-38 are more of a description of the scene, even though in the original story they should be consequences of attempts undertaken. CU39 is syntactically and semantically aberrant.

36. *then the owl's on this tree!* ?
37. *and he's holding at these (1.00) and like buds!* ?
38. *and he's holding onto these (1.00) pieces of (1.00) erm tree!* ?
39. *but it wasn't!* ?

Another series of attempts followed in CU40 – CU43 followed by a series of consequences in CU45 to CU47. CU44 was not coded as it was not clear whether it was an attempt or a consequence.

40. *it's (.) was a deer so the dog goes behind the log to see if he were there!* A
41. *so they go into this hole, the dog like looks at the boy!* A
42. *the boy just says 'what's this, what's this' and might (.) they might fall off the hill!* A
43. *and the deer fights to pull his head forward to let them go!* A
44. *and they might(.) if it was water(.) if they couldn't swim they would drown!* ?
45. *so they are going to a splash!* C
46. *so the dog is on top of the boy's head!* C
47. *the boy's lying just smiles what happens!* C

CU48 to 52 is another series of attempts followed by consequences in CU53 and CU54. CU55 to 61 have been coded as resolution of the story.

48. *and they found this piece of tree so they might go onto that tree!* A
49. *so they go on the (.) the piece of tree to see what's on the other side!* A
50. *and they go to the other side!* A
51. *and the dog is like on the top of the tree!* A
52. *he might fall on (.) do a roller!* A
53. *then they found the frog and it's got a girlfriend or sister!* C
54. *then these little frogs comes and it's his children!* C
55. *so the boy might take a little baby home!* R
56. *a little baby frog and say 'I'll look after it' that's OK!* R
57. *and the dog's really surprised!* R
58. *it's smiling!* R
59. *then the boy was like waving good-bye to frog!* R
60. *the mum frog is on the floor because he can't reach up!* R
61. *so it's really 'Bye! I miss my brother and my sister'!* R

JS's Frog Story

JS used the basic story grammar parts (see Chapter 3). There was a very clear, conventional setting (S):

1. *once upon a time there was a little boy called Jack and a little dog called Bes and a little frog called Harry/*
2. *and they were best friends/*

JS also provided an initiating event (IE) that set the story into motion.

3. *when the boy was asleep the frog got out of this thing/* IE
4. *and the dog was asleep/* IE
5. *he woke up and Jack woke up and found the frog had gone/* IE

There was no internal response nor internal planning. However there were several attempts on the part of the two main characters (the boy and the dog) to solve the problem. (A=attempt; C=consequence)

6. *he got himself dressed in his clothes and Bes got his head stuck in a jar/* A
7. *and the dog was walking around with a jar stuck on his head and Jack was shouting 'Harry Harry where are you'!/* A
8. *the dog fell out of the window with the jar on his head and then Jack caught Bes the dog and it was licking his face/* C
9. *and the jar smashed/* C
10. *'Harry Harry where are you' and Bes was going (mimics dog's voice)/* A
11. *and all they saw was a beehive with bees coming out/* C
12. *the dog saw the beehive and he was trying to jump up to get it/* A
13. *while Jack was looking in a hole shouting 'Harry Harry' but it was no Harry it was a mouse/* A
14. *the dog was trying to get to the beehive/* A
15. *and the dog went (mimics again dog's squeaking) because the bees were chasing him/* C
16. *while Jack was looking in a hole in the tree/* A
17. *but in the hole of the tree was an owl/* A
18. *and Bes the dog was running really fast because*

- the swarm of bees was going/* C
19. *and Jack fell out of the tree/* C
20. *and then (2.00) he went out where he was going/* A
21. *he was calling out 'Harry Harry where are you' /* A
22. *and the dog was stung a lot/* C
23. *and then he realised Jack was sitting on the reindeer and the reindeer was running and the dog was running far from it/* A
24. *and the dog and the boy fell and landed in the water/* C
25. *'Oooooo' and they had a big splash and then they all got back out of the water/* C
26. *they found a log and they got onto it/* A
27. *and then they met two frogs, the dog and Jack/* A
28. *and they met some little other frogs too/* A

Most of the attempts are followed by consequences apart from the last three communication units where there was no consequence, but a resolution to the original problem was provided. However, because of an incomplete tie between CU28 and CU29, it is not immediately obvious to the listener that this is the final state triggered by the initiating event, even more so that it actually ends with direct speech and no reference is being made as to who utters the last communication unit.

29. *yeee I found it I found it/* R
30. *the end by Jonathan Hope/* E