

**DISCOURSE CHARACTERISTICS OF  
CREOLE-SPEAKING MAURITIAN ADULTS  
WITH MILD TO MODERATE APHASIA**

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Speech Pathology**

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## **DECLARATION**

I, Kauthar Nabeemeeah, declare that this dissertation is my own unaided work, that I am responsible for the text of this study and all conclusions reached; and that no part of this dissertation has been submitted for a degree at any other university.

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Signed by candidate

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20.09.02

Date

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## **ABSTRACT**

With the shift away from evaluation of isolated aspects of linguistic performance, discourse assessment has become an important tool in assessing the communication competence of individuals following a neurological insult. The present research investigates the effects of mild to moderate aphasia on the discourse performance of Creole speaking Mauritians. A control group was included so as to differentiate aspects of discourse from normal to pathological and with a view to discerning the compensatory strategies of adults with aphasia in discourse. Various narrative tasks from an adapted version of the Ulatowska et al (1998) battery were employed. Each task assessed different levels of language and cognitive complexity. The major findings of the study revealed that the underlying difficulty of the individuals with mild to moderate aphasia lie not in the quality of the discourse characteristics analysed but rather in the quantity. Moreover, their problem at a linguistic level is highlighted which is in agreement with past research. Also, an appraisal of the adaptation features disclosed the compensatory strategies employed by the subjects. It was found that the subjects with aphasia employed repetitions as a compensatory strategy in their narratives. Finally, the battery was found to be culturally and linguistically appropriate to the Mauritian population and it elicited natural language which helped gain insight into the discourse characteristics of Mauritian Creole. Results indicated that the Creole speakers favour a full verbal channel, thus priming fluency. Numerous theoretical, clinical and future research implications emerging from this study are discussed.

# TABLE OF CONTENTS

<b>DECLARATION</b> .....	<b>i</b>
<b>ACKNOWLEDGEMENTS</b> .....	<b>ii</b>
<b>ABSTRACT</b> .....	<b>iii</b>
<b>CHAPTER 1</b>	
<b>INTRODUCTION</b> .....	<b>1</b>
<b>CHAPTER 2</b>	
<b>2 ASSESSMENT OF APHASIA</b> .....	<b>7</b>
<b>2.1 Limitations of Standardised Tests</b> .....	<b>7</b>
<b>2.2 Use of Discourse Analysis</b> .....	<b>8</b>
2.2.1 Discourse types.....	10
2.2.2 Elicitation techniques for narrative discourse.....	12
2.2.3 Limitations of narrative discourse.....	14
<b>2.3 The Ulatowska et al (1998) Discourse Test Battery</b> .....	<b>14</b>
2.3.1 Other research using the Ulatowska et al (1998) Test Battery.....	15
2.3.2 The cultural framework.....	16
<b>CHAPTER 3</b>	
<b>3 LANGUAGE &amp; CULTURAL ISSUES IN MAURITIUS</b> .....	<b>18</b>
<b>3.1 Brief History</b> .....	<b>18</b>
<b>3.2 Ethnic Groups</b> .....	<b>19</b>
<b>3.3 Languages in Mauritius</b> .....	<b>20</b>
3.3.1 Diversity of languages.....	20

3.3.2 Bilingualism.....	21
3.3.3 Language in use.....	22
3.3.4 Mauritian Creole.....	24
<b>CHAPTER 4</b>	
<b>4 METHODOLOGY.....</b>	<b>29</b>
<b>4.1 Aims.....</b>	<b>29</b>
4.1.1 Primary aims.....	29
4.1.2 Specific aims.....	29
<b>4.2 Research Design.....</b>	<b>30</b>
<b>4.3 Subjects.....</b>	<b>30</b>
4.3.1 Sample.....	30
4.3.2 Subject selection criteria.....	30
4.3.3 Availability of experimental subjects.....	31
4.3.4 Subject consent.....	31
4.3.5 Pre-data collection.....	31
4.3.6 Subject description.....	34
<b>4.4 Data Collection.....</b>	<b>36</b>
4.4.1 Discourse Test Battery.....	36
4.4.2 Description of tasks and stimuli.....	40
<b>4.5 Procedure.....</b>	<b>42</b>
4.5.1 Testing sessions.....	42
4.5.2 Testing environment.....	43
4.5.3 Equipment.....	43
4.5.4 Instructions.....	43
<b>4.6 Treatment of Data.....</b>	<b>46</b>
4.6.1 Transcription of data.....	46
<b>4.7 Analysis of Results.....</b>	<b>46</b>
4.7.1 Word count.....	46

4.7.2	Propositional analysis.....	46
4.7.3	Ratio.....	46
4.7.4	Quality analysis.....	47
4.7.5	Generalisation of information.....	48
4.7.6	Analysis of evaluation.....	48
4.7.7	Adaptation features.....	49
4.7.8	Characteristics of Mauritian discourse.....	50
4.7.9	Idiomatic Creole expressions.....	50
4.7.10	Statistical analysis.....	51
<b>4.8</b>	<b>Reliability Measures.....</b>	<b>52</b>
4.8.1	Inter-rater reliability.....	53
4.8.1.1	Transcription reliability.....	54
4.8.1.2	Propositional unit reliability.....	54
4.8.1.3	Quality analysis rating reliability.....	55
4.8.1.4	Analysis of evaluation reliability.....	56
4.8.1.5	Reliability of analysis of adaptation features.....	56
 <b>CHAPTER 5</b>		
<b>5</b>	<b>RESULTS &amp; DISCUSSION.....</b>	<b>57</b>
<b>5.1</b>	<b>Length of Narrative, Propositional Analysis and Ratio of Length of Narrative to Propositional Units.....</b>	<b>58</b>
5.1.1	Length of narrative.....	59
5.1.2	Propositional analysis.....	60
5.1.3	Ratio of length of narratives to propositional units.....	61
5.1.4	Some conclusions on length of narrative, propositional analysis and ratio.....	61
<b>5.2</b>	<b>Quality Analysis.....</b>	<b>62</b>
5.2.1	Global structure.....	65
5.2.2	Temporal sequence.....	67
5.2.3	Reference.....	69

5.2.4	Suspense.....	70
5.2.5	Coherence.....	72
5.2.6	Clarity.....	76
5.2.7	Completeness and accuracy.....	77
5.2.8	Main idea and lesson.....	79
5.2.9	Some conclusions on quality analysis.....	83
<b>5.3</b>	<b>Analysis of Evaluation.....</b>	<b>83</b>
<b>5.4</b>	<b>Relationship between Quality Analysis and Analysis of Evaluation.....</b>	<b>90</b>
<b>5.5</b>	<b>Task Effects.....</b>	<b>91</b>
5.5.1	Single pictures stimuli.....	92
5.5.2	Sequence pictures.....	92
5.5.3	Fable.....	93
5.5.4	Personal narrative.....	94
5.5.5	Some conclusions on task effects.....	95
<b>5.6</b>	<b>Interpretation of Idiomatic Creole Expressions.....</b>	<b>95</b>
5.6.1	Familiar v/s unfamiliar expressions.....	95
5.6.2	Spontaneous interpretation.....	96
5.6.3	Multiple choice formats.....	102
5.6.4	Spontaneous interpretations v/s multiple choices.....	103
5.6.5	General discussion on interpretation of idiomatic Creole expressions.....	104
<b>5.7</b>	<b>Adaptation Features.....</b>	<b>105</b>
5.7.1	General adaptation features.....	105
5.7.2	Aphasic adaptation features.....	110
5.7.3	Use of repetition for effect.....	111
5.7.4	Lexical borrowing.....	115
5.7.5	Direct speech.....	119
5.7.6	Discourse characteristics of Mauritian Creole.....	120
5.7.7	Pragmatic competence.....	125
<b>5.8</b>	<b>Summary.....</b>	<b>126</b>

**CHAPTER 6**

**6 CONCLUSIONS**.....128

**BIBLIOGRAPHY**.....134

**APPENDICES**

**Appendix A:**

Consent Form (in English and Mauritian Creole).....I

**Appendix B:**

Paradis (1987) Language History Questionnaire (in English and Mauritian Creole).....III

**Appendix C:**

Western Aphasia Battery, Kertesz (1982) (in English and Mauritian Creole).....IX

**Appendix D:**

Adapted version of Ulatowska et al (1998) Discourse Test Battery (in English and Mauritian Creole).....XXIV

**Appendix E:**

Results of first logistic regression analyses.....XXXV

## LIST OF TABLES

### CHAPTER 3

<b>LANGUAGE &amp; CULTURAL ISSUES IN MAURITIUS</b> .....	<b>18</b>
3.1 Ethnic distribution in Mauritius.....	19
3.2 Current languages spoken in Mauritius.....	21
3.3 Current bilingualism status in Mauritius.....	22
3.4 Languages read and written.....	23
3.5 Languages v/s domain of use.....	24

### CHAPTER 4

<b>METHODOLOGY</b> .....	<b>29</b>
4.1 Experimental group subject description.....	34
4.2 Control group subject description.....	35
4.3 List of expressions.....	38
4.4 Responses to the familiarity of the idiomatic expressions.....	39
4.5 Scores for sample of Mauritians.....	40
4.6 Description of tasks and stimuli adapted from Ulatowska et al (1998)	
Discourse Test Battery.....	41
4.7 Language and cognitive requirements for narrative and proverb tasks (Ulatowska et al 1998).....	42
4.8 Discourse features and the rating scale (Ulatowska et al 1998).....	47
4.9 Evaluation of intensifiers in discourse (Labov 1977).....	49
4.10 Expressions' rating scale (Ulatowska et al 1998).....	51
4.11 Inter-rater transcription reliability.....	54
4.12 Inter-rater reliability for propositional units.....	55
4.13 Inter-rater reliability for quality analysis.....	55
4.14 Inter-rater reliability of analysis of evaluation.....	56

4.15	Inter-rater reliability for adaptation features .....	56
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## CHAPTER 5

<b>RESULTS &amp; DISCUSSION .....</b>	<b>57</b>	
5.1	Calculation of WC, PU and ratio for the experimental subjects .....	58
5.2	Calculation of WC, PU and ratio for the control subjects .....	59
5.3	Quality rating analysis for the experimental group .....	63
5.4	Quality rating analysis for the control group .....	64
5.5	Results of second regression analysis on global structure for 'Apple Theft' .....	66
5.6	Results of second regression analysis on temporal sequence for 'Simple Pictures' stimuli .....	68
5.7	Results of second regression analysis on temporal sequence for 'Fable' .....	69
5.8	Results of second regression analysis on reference for 'Fable' .....	70
5.9	Results of second regression analysis on suspense for 'Personal Experience' .....	70
5.10	Results of second regression analysis on coherence for 'Apple Theft' and 'Fable' .....	73
5.11	Results of second regression analysis on completeness and accuracy for 'Fable' .....	77
5.12	Analysis of evaluation of the experimental group .....	84
5.13	Analysis of evaluation of the control group .....	85
5.14	Order of use of intensifiers by both groups .....	88
5.15	Non-parametric correlation between quality analysis and evaluation analysis .....	90
5.16	Ratings of experimental and control groups on spontaneous interpretations of expressions .....	96
5.17	Scores obtained by the experimental and control subjects on the multiple choice formats .....	102
5.18	Type of responses obtained on multiple choice formats for both groups .....	103
5.19	Incidence of general adaptation features in the experimental group .....	106
5.20	Incidence of general adaptation features in the control group .....	107
5.21	Incidence of aphasic adaptation features in the experimental group .....	110

5.22	Incidence of lexical borrowing in the experimental and control groups.....	116
5.23	List of lexical borrowing instances.....	117
5.24	Incidence of direct speech in the experimental and control groups.....	119
5.25	Incidence of discourse ethnic markers in the experimental and control groups.....	120
5.26	Summary of findings of present study.....	126

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## **LIST OF FIGURES**

### **CHAPTER 4**

#### **METHODOLOGY ..... 29**

**Figure 1:** Aphasia Quotient scores of the experimental and control subjects.....33

### **CHAPTER 5**

#### **RESULTS & DISCUSSION ..... 57**

**Figure 2:** Incidence of the different intensifiers across groups.....87

**Figure 3:** Different types of responses obtained by both groups on spontaneous interpretations of expressions.....97

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*'Take care of the sense and the sounds will take care of themselves'*

*(Lewis Carroll in Penn, Jones & Joffe 1997: 630)*

# CHAPTER 1

## INTRODUCTION

Stroke is a leading cause of death and morbidity in all countries (Hoffmann & Watts 1998: 14). In addition, neurological damage following a cerebrovascular accident (CVA) generally leads to some form of communicative disability (Penn 1992). Neurologically compromised people often suffer from aphasia which affects their ability to understand and produce language, the latter being the basic form of communication. Successful communication is at the core of social adjustment, integration, adaptation and life satisfaction (Shadden 1988 as cited in Mackenzie 2000b:270). Chomsky (1972) refers to language as the 'human essence' (Chapey 1986). The speech and language pathologists play an important role in the assessment and remediation of communication disorders. They need to work on each person's potential so that s/he can function maximally within his/her environment (Chapey 1986).

The present study focuses on the narrative discourse performance of Creole-speaking Mauritian persons with mild to moderate aphasia following a CVA. This study forms part of a larger collaborative project examining the effects of aphasia in population groups other than the Caucasian population. Ulatowska et al (1998) investigated the discourse performance of African Americans. Von Bentheim (2000) and Venter (2000) studied the discourse performance of English and Afrikaans speaking Cape Coloured South Africans respectively. These studies included an investigation of the impact of aphasia on dialect in the specific cultural groups which may potentially contribute towards a larger body of knowledge regarding the effects of aphasia on non-standard dialects (Ulatowska et al 1998; Ulatowska & Olness 2000). Also, Ogilvy, Bentheim, Venter, Ulatowska & Penn (2001) have studied the effects of mild to moderate aphasia on discourse and dialect within the Coloured population residing in the Western Cape, South Africa.

The assessment and management of the communicatively impaired population in Mauritius is severely hindered by the lack of culturally and linguistically sensitive tools. To date, there is no test battery that can effectively tap the communicative difficulties experienced by these individuals in their first language, that is Creole. The standardised language measures available are potentially culturally biased as they are normed, for the most part, on educated, middle class Caucasians (Wertz, Ulatowska, Wallace, Payne, Chapman, Auther-Steffen 2000). Therefore, the clinicians are unable to adequately target main areas of language breakdown and manage accordingly.

Discourse analysis approximates a functional approach in the assessment of aphasia and can thus pinpoint the areas of strengths of the communication competence of an individual rather than focusing on his/her language competence. Armstrong (2000: 875) observed that 'analysing discourse addresses the question of how aphasic speakers talk in connected speech in everyday situations'. This is especially significant as often, we find that persons with the same degree of impairment have different prognosis or patients with different aetiologies show similar results on standardised tests but even then have distinctive communication profiles (Penn 1999). It is therefore important to approach each individual according to their unique needs in daily life.

Several authors indicate that discourse tasks present as more sensitive and more functional measures of communicative abilities and disabilities in aphasia compared to standardised procedures (Chapman, Highley & Thompson 1998; Holland 1983; Ulatowska & Chapman 1994 cited in Ulatowska, Wertz, Chapman, Hill, Thompson, Keebler, Olness, parsons, Miller, Auther 2001). The focus on linguistic aspects only provides the clinician with partial insight into the competence of a multilingual individual in the tested language and does not include a holistic overview of the person's actual communicative competence (Penn & Beecham 1992).

Within this study, using the Ulatowska et al (1998) Discourse Test Battery, hopefully the richness of the Creole language used in Mauritius will be revealed. Its effectiveness in differentiating between the two groups under study has important implications.

Considering the cultural and linguistic diversity on the island, it can be adapted to assess an individual in any other language/s (Hindi, Bhojpuri, Hakka, Urdu ...) preferred by the patient.

Language is probably the most intricate aspect of the Mauritian society considering the number of languages spoken, with their different uses coupled with their socio-political implications (Baker 1972; Bunwaree 1994). There is the need to document the discourse characteristics of the population as the results will be useful in differentiating normal from pathological while being aware of cultural differences. Considering the mosaic of languages used in Mauritius, the Creole language presents as the appropriate starting point as it is the language spoken by most of the inhabitants irrespective of ethnic group.

To the best of the author's knowledge, no research documenting discourse characteristics of Creole spoken by Mauritians with neurological impairment has been previously undertaken. Furthermore, there has been no comparison of the discourse abilities of Creole speaking Mauritians with aphasia and those with no known neurological involvement. The Ulatowska et al (1998) test battery can potentially assess and reveal the language strategies indigenous to the Mauritian socio-cultural context. According to Virahsawmy (1991), Baker (1972) and Stein (1982), there is limited research into the discourse characteristics of the Creole speaking individuals in Mauritius. The present study can potentially highlight these features and analyse their use in the groups studied as the persons with aphasia may resort to their use as a compensatory strategy.

The discourse battery is non-invasive, easy to administer and inexpensive which is especially significant for a developing country like Mauritius. In addition, the need for speech-language services is not well recognised in the country. Many communicatively impaired people are unaware of the benefits of therapy. This attitude stems partly from the lack of culturally sensitive and appropriate assessment tools and methods of management.

Persons with mild aphasia have not been given due attention in clinical aphasiology (Marshall 1987). Linebaugh (1984) cited in Penn & Beecham (1992) further state that the subtle degree of impairment in this category influences communication according to environmental demands placed on the patient. The standardised tests fail to attend to these subtle deficits which usually manifest in the communicative context in natural environments (Ulatowska, North & Macaluso-Haynes 1981). This oversight by standard measures can potentially undermine the reintegration of the patient in society.

Ellis and Young (1988: 256 in Penn, Jones & Joffe 1997: 601) suggested that 'higher level language problems are 'on the border between language and more general thinking and reasoning'. This may indeed explain persons with mild aphasia feeling especially in their vocational environment (Marshall 1982, Penn 1993 in Penn et al 1997). Discourse analysis methods have their effectiveness in revealing the subtle communication deficits experienced by persons with mild aphasia (Chapman & Ulatowska 1989 in Penn et al 1997). Penn and Beecham (1992) stated that the mildly impaired patient may pass a standardized test but still fail in social interaction. Considering that connected speech adheres to standard language rules and patterns of use of language, it can be employed to evaluate the competence of an individual at work or when participating in other situations necessitating connected speech (Nicholas & Brookshire 1991).

The selection of this population for the present study is also based on the fact that these individuals have the ability of producing an amount and variety of language (Ulatowska et al 1981). As this study is the first of its kind in Mauritius, adequate language samples are necessary to investigate the discourse structure and its disruption.

Taylor and Clarke (1994) noted that much research conducted in the field of communication disorders has failed to consider important cultural and linguistic issues. The investigators often exhibited 'culturally incongruous behaviours and inadequate knowledge of the culture being studied' (Crage 1992 in Taylor & Clarke 1994: 110). In order to consider and acknowledge the importance of culture and language in research within the field of communication disorders, the following aspects were considered.

Interlocutors in the present study are native Mauritians with Creole as their first language. The other raters recruited for the analysis of the discourse samples are also indigenous Mauritians who are all familiar with the Mauritian culture.

Prior to the administration of the Ulatowska et al (1998) Discourse Test Battery , the Western Aphasia Battery (WAB) (Kertesz 1982) and the Language History Questionnaire (Paradis 1987) were administered in an attempt to address an important methodological issue, that of the homogeneity of the groups under study. The WAB was employed to determine the degree of severity of the individuals with aphasia in the experimental group and to ensure that the subjects in the control group had no history of neurological damage. The Paradis Questionnaire was deemed necessary considering the multitude of languages spoken in Mauritius.

The Ulatowska et al (1998) Discourse Test Battery was adapted for the purposes of this study. These adaptations were thought to be necessary so as to allow the battery to be more culturally sensitive. The Ulatowska et al (1998) Discourse Test Battery has been devised with the American culture in mind and it is said to be linguistically and culturally appropriate in that instance. However, in an attempt to make the battery linguistically and culturally sensitive to the Mauritian population group, the 'Single Pictures' stimuli have been substituted for a new set of pictures, the 'Fable' has been translated into Creole and finally the proverbs have all been replaced by idiomatic expressions common to most Mauritians.

The primary aim of the present study was to characterise the discourse of a group of ten Creole speaking Mauritians with mild to moderate aphasia and a control group of ten non-neurologically impaired Creole speaking Mauritians. The ratings of the narratives were undertaken by two other native Mauritians. Quantitative and qualitative measures were employed.

Chapter 1 provided an introduction to the thesis.

Chapter 2 focuses on the assessment of aphasia with regard to traditional standardised modes of testing and the move towards discourse analysis bearing in mind a cultural framework.

Chapter 3 centres on the language and cultural issues in Mauritius to acquaint the reader with the complexity of these aspects and their likely influence on assessment of an individual following neurological damage.

Chapter 4 relates the methodology adopted for the current study. Some preliminary findings from a pilot study and inter-rater reliability data have been included under this section.

Chapter 5 displays the results of the analyses of data and the ensuing discussion.

Chapter 6 concludes the research project and includes the implications for future research in the area.

## **CHAPTER 2**

# **ASSESSMENT OF APHASIA**

Traditional assessment tools are not relevant in diverse populations where communication disorders need to be analysed carefully, taking into account social, political, historical, cultural, ethnic and gender perspectives (Kathard 2000). This chapter highlights the limitations of standardised tests and an appraisal of discourse analysis. Findings of previous studies on discourse have been included.

### **2.1 Limitations of Standardised Tests**

Many researchers have criticized the use of standard measures in the assessment of aphasia (Grosjean 1989; Penn & Beecham 1992; Lyons, Cariski, Keisler, Rosenbek, Levine, Kumpula, Ryff, Cayne & Levin 1997; Boles 1998; Honda, Mitachi & Watamori 1999; Wilkinson 1999). These tests fail to tap the everyday communication difficulties experienced by persons with mild or even severe aphasia and they are rather focused on the comprehension and production of brief decontextualised language units (Mackenzie 2000a). Also, aphasics from cultures other than those on whom those tests were validated are at a disadvantage (Penn & Beecham 1992).

Furthermore, Boles (1998) pointed out that speech-language pathologists note an improvement in their patient's performance which is not reflected on standardised test results. However as Boles (1998: 262) indicates, this observation is not surprising as those tests focus on 'patient's verbal responses to specific questions elicited in didactic style'. The basic aim of standardised measures is on language and not communication ability (Boles 1998). In addition, environmental demands placed on a patient tend to influence his/her communicative ability and these are not tapped by formal test procedures (Penn & Beecham 1992). Increasing concern over the inability

of standardised tests to predict communication competence in everyday situations has led to an appreciation of the limitation of this approach (Mackenzie 2000a).

Glosser, Wiener and Kaplan (1988) recognised the situational variations in aphasic language and communication. In addition, a number of authors have suggested that people with aphasia communicate better in natural contexts (Davis & Wilcox 1985; Holland 1980, 1982a; McTear 1985; Wilcox et al 1978 in Manochiopinig, Sheard & Reed 1992). Standardised tests are not indicative of an individual's communicative competence in spontaneous interactive settings and therefore, they fail to adequately validate competence of an individual in the functional use of language (Manochiopinig et al 1992).

The problem posed by standardised tests is exacerbated when multicultural societies are involved. Standardised tests are based on Western and European values which are often inappropriate for other cultures or language groups. There is an increasing awareness amongst SLPs that communicatively impaired individuals from this group bring about unique clinical needs (Reyes 1994). Religion, race, ethnicity, education, class, language and socio-economic status all contribute towards shaping a person's culture. Therefore, professionals in the field of speech and language pathology need to be aware of these aspects of culture. In addition, they have to understand potential differences that may occur in different cultures to be able to direct intervention appropriately (Marshall 2000; Kathard 2000). As such, the challenge lies in the ability of clinicians to develop assessment and management tools that can effectively tap the communication difficulties experienced by aphasics from culturally and linguistically diverse backgrounds (Battle 2000). It is crucial to make the distinction between performance reflecting cultural and linguistic differences and performance depicting a language disorder (Bird & Vetter 1994).

## **2.2 Use of Discourse Analysis**

The cultural bias posed by standardised tests may be overridden by the inclusion of discourse tasks in diagnostic language batteries. They are likely to reveal the richness of language unique to various cultures. Of particular importance is that discourse

studies not only address the linguistic aspects of communication but also its social, psychological and pragmatic implications (Ulatowska et al 1981). Discourse allows clinicians to consider different linguistic environments. It makes up for the lack of culturally sensitive tools and allows for the contextual use of language (Penn & Beecham 1992). Therefore, assessment can be carried out using a holistic approach as various factors which can potentially affect communicative competence are taken into account.

Discourse has the potential to highlight the communicative competence of an individual better than traditional tests (Ulatowska et al 1998). In fact, Lyons et al (1997) commented that communicative competence in discourse is the best index in the assessment of improvement in persons with aphasia instead of linguistic performance.

Tools for the assessment of aphasia have moved beyond the level of single words and sentences (Mackenzie 2000a). As such, many authors regard the assessment of discourse as an essential and discriminating component of communication assessment (Cannito et al 1988, Bloom 1994 cited in Mackenzie 2000b: 270). Of primary importance, discourse analysis allows the clinician to gain insight into the cognitive style of the individual, that is the manner in which individuals perceive, organise and process experiences and transmit them behaviourally (Lee 1987 in Taylor & Clarke 1994).

Discourse analysis has become popular in recent years as studies in aphasiology have been geared towards the characterisation of aphasic deficits as they occur in natural conditions (Armstrong 1991). 'Comprehension at the level of sentences and beyond poses cognitive demands for sustained attention, memory and problem solving, surpassing those of single word tasks, in that processing requires the taking into account of alternative meaning and the integration of information both within the stimulus and with previous knowledge' (Mackenzie 2000a: 152). Aphasia is thus dealt with as a communication disability instead of language impairment per se.

Discourse is defined as a 'continuous stretch of spoken language larger than a sentence' (Crystal 1987 cited in Lock & Armstrong 1997:300). According to

Ulatowska & Chapman (1994) cited in Honda et al (1999), the formulation of discourse is based on the understanding and manipulation of linguistic information as well as the cognitive ability to organise information. The integration of macrolinguistic knowledge (conceptual and pragmatic competence), microlinguistic knowledge (phonology, syntax and semantics) and cognitive processes is important in the production of meaningful discourse (Lock & Armstrong 1997). Discourse analysis procedures have been shown to be particularly sensitive to the breakdown of language in persons with mild aphasia (Chapman & Ulatowska 1989 cited in Penn et al 1997).

### **2.2.1 Discourse types**

Clinical discourse assessment includes different types described as conversational, expository, narrative and procedural discourse. Each discourse type analyses language in the contextual, narrative and conversational settings in which language is daily used and understood (Lock & Armstrong 1997). However, each of these measures of discourse has its own structure, cognitive and linguistic demands as well as functions (Snow, Douglas & Ponsford 1995; Shadden 1997; Armstrong 2000).

- **Conversational discourse**

The most significant advantage presented by this form of analysis is the acknowledgement of the two-way construal of communication compared to monologues prevailing in other types of parameters (Armstrong 2000). Conversational discourse focuses on how aphasia affects the interaction of persons with aphasia with their partners in authentic social contexts. It highlights the conversational potential of individuals with aphasia including use of compensatory strategies employed to ensure successful communication (Damico, Oelschlaeger & Simmons-Mackie 1999).

However, a number of workers have observed that conversation may obscure rather than bring out the difficulties experienced by patients in less contrived settings (Snow et al 1995). Also, the diagnostic value of conversational analysis may not be significant considering that most persons with aphasia seem to retain intact the discourse features for communication (Ulatowska & Chapman 1989 cited in Craig,

Hinckley, Winkelseth, Carry, Walley, Bardach, Higman, Hilfinger, Schall & Scheimo 1993). Finally, conversational discourse is unconstrained in nature and variable samples may be obtained at different points in time depending on topic under discussion and participants' interaction styles. In this view, it is deemed unsuitable over time as an assessment tool and a base for planning therapy aims (Perkins, Crisp & Walshaw 1999).

- Expository discourse

This parameter is based on the logical cohesion among all topics contributing towards a subject-matter orientation. It is devoid of referencing or chronological sequence (Ulatowska et al 1981).

- Procedural discourse

This form of analysis is primarily motivated by the individual's ability to explain how a familiar activity is carried out. Its benefit lies in the fact that it highlights the patient's potential to organise events in a conceptual framework and observe chronological order. Also, it holds significance in everyday life, social interaction and recreational media. Despite these benefits, it elicits language that is syntactically simple and is unconstrained in temporal order (Ulatowska et al 1981; Honda et al 1999).

- Narrative discourse

Clinical assessment and research in pathological discourse have been mainly directed towards narrative discourse analysis (Ulatowska, Freedman-Stern, Weiss-Doyel, Macaluso-Haynes & North 1983). Narrating stories allow both the speaker and the listener to know and understand experience holistically since narratives help to organise, interpret and subsequently give meaning to experience (Polkinghorne 1988 & Cortazzi 1993 in Cortazzi, Jin, Wall & Cavendish 2001).

Narrative analysis may serve to evaluate the interpretations of recounted events 'by distinguishing event structures (which report happenings), description pictures (which detail time, place, people and context) and evaluation structures (which give the point by presenting the speaker's perspective, feeling or judgement) (Cortazzi 1993; Linde

1993 & Reissman 1993 in Cortazzi et al 2001: 253). Similar to procedural discourse, it necessitates complex planning and execution skills but it additionally involves the use of pragmatic knowledge. Moreover, the structure of narratives is based on the organisation of events related to each other by certain principles (Ulatowska et al 1981; Giles, Patterson & Hodges 1996; Honda et al 1997).

Narratives not only involve the expression of extended or elaborated units of text but they include introductory and closing statements. They also observe chronological order of events leading to a logical resolution (Sleight & Prinz 1985; Roth & Spekman 1986). The stories are based on characters or events or the relating of an event (Merritt & Liles 1989; Kramer, Bryan & Frith 1998). A range of elicitation techniques is used to elicit narratives but each produces different patterns of language which has important theoretical and clinical ramifications (Armstrong 2000).

### **2.2.2 Elicitation techniques for narrative discourse**

Eggs and Martin (1997: 9) cited in Armstrong (2000: 876) defined discourse genres as 'different ways of using language to achieve different culturally established tasks'. A variety of stimuli ranging from single pictures, picture sequences to video narrations, story retells and personal experiences recounts have been noted in the literature (Yorkston & Beukelman 1980; Correia, Brookshire & Nicholas 1990; Snow et al 1995). Measures of content, verbal disruption, cohesion and story grammar varies depending on elicitation stimuli and the cognitive and linguistic demands of the task (Doyle, McNeil, Spencer, Goda, Cottrell & Lustig 1998). Considering that different tasks yield language with different wording and grammar, multiple story telling tasks have been employed to elicit spoken language samples (Morris-Friehe & Sanger 1992). To obtain a potential representative sample of an individual's narrative ability, it is thus necessary to consider the differences between the types of stimuli.

- **Pictures**

Pictured stories are frequently used to examine discourse production. They present as an efficient and rapid way to collect a discourse sample as pictures impose a narrative structure usually followed by the speaker (Hinckley & Craig 1992). Visually presented material is helpful in focusing attention and decreasing interference by

easing the memory load (Correia et al 1990; Giles et al 1996; Doyle et al 1998). Also, pictures are likely to elicit speech in a controlled clinical or research setting. Moreover, they tend to generate discourse that allows the clinician or researcher to investigate target words and potential errors (Armstrong 2000). However, short narratives with little functional value are usually obtained and they lack adequate discourse structure. Another shortfall is that they are not representative of real-life communicative situations (Lock & Armstrong 1997). Picture sequences have also been employed and they differ from single picture stimuli in terms of cognitive demands (Brenneise-Sarshad, Nicholas & Brookshire 1991). Williams, Li, Volpe & Ritterman (1994) add that sequence pictures tend to produce longer language samples involving higher levels of narrative organisation.

- **Story retells**

Retelling of orally presented stories, usually fables, presents as salient stimuli in narrative discourse sampling. The speaker has to retain the story elements and their temporal order, retrieve them from memory and reformulate them linguistically. This task involves the interaction of cognitive and linguistic abilities, thus tapping higher levels of the processing of language (Doyle et al 1998; Ulatowska et al 2001).

- **Personal recounts**

Finally, memorable experience narratives are thought to be the closest to spontaneously produced discourse. The individual relives or rehearses an event and the narrative which calls on the processing of complex cognitive and linguistic skills (Ulatowska, Freedman-Stern, Weiss Doyel, Macaluso-Haynes & North 1983). Personal recounts may contribute towards patient management as well as providing clinicians with a means of identifying the salient errors in aphasic output (Rosenbek, LaPointe & Wertz 1989 & Honda et al 1999). Personal recounts supply a means to differentiate pathological from normal. In addition, they can potentially assess the preservation of ethnic style in individuals with aphasia as well as supplement standardised tests by providing culturally representative language (Ulatowska et al 1998).

### **2.2.3 Limitations of narrative discourse**

Despite its potential contribution, the analysis of discourse is not popular. Sample collection, transcription and eventually analysis call for important time commitments which is problematic for Speech and Language Pathologists with heavy caseloads. Furthermore, the training involved to ensure expertise in sample collection and analysis is considerable. There are also concerns about the validity of analysis procedures because of the lack of procedural uniformity in sample elicitation and data collection. If reliability of observations and sample analyses is questionable, then comparisons across raters are doubtful. In fact, reliability measures have important ramifications for discourse analyses due to their emphasis on pragmatic features of language that often have variable descriptions (Hux, Sanger, Reid & Maschka 1997).

Clinicians have limited knowledge of what to expect from their patients in terms of specific discourse characteristics. As such, the relationship between assessment and designing appropriate intervention is obscure. This is probably due to the origin of discourse analysis in psycholinguistics while aphasiology's main focus used to lie mainly on the single-word and sentence levels (Armstrong 1991). The other major setback is the lack of normative data on discourse performance (Snow et al 1995).

### **2.3 The Ulatowska et al (1998) Discourse Test Battery**

The discrepancy between aphasic's performance on standardised tests and their communicative ability in everyday life has prompted research into the communicative competence of individuals with aphasia. Holland (1977) produced the first clinical tool of this kind: the Communicative Abilities of Daily Living (CADL). A number of authors then focused on the relationship between cognition, the organisation of human knowledge and language (Ulatowska et al 1983). However, considering the range of stimulus, presentation modes, cognitive demands and discourse types, there was a need for the development of a test battery, measuring a standard set of defined discourse features (Doyle et al 1998).

The Ulatowska et al (1998) Discourse Test Battery incorporates multiple discourse tasks including narrative discourse and proverb interpretation. Five narratives are generated; three with pictorial stimuli (two single pictures and a picture sequence) and two with verbal stimuli (a fable retell and prompts to elicit a frightening experience). The proverb tasks are two-fold; spontaneous interpretation and multiple choice formats are included. The narrative tasks are analysed in terms of amount of language, quality of language and discourse styles. Furthermore, the person is required to provide a main idea for all tasks and additionally a lesson for the story sequence and the fable. These are rated according to appropriateness and type of generalisation. Finally, the proverbs are rated according to the accuracy of the response obtained (Ulatowska et al 1998).

The inclusion of the fable and proverbs is especially significant as they are commonly used in the assessment of general cognitive function. Also, they can potentially differentiate between different neurogenic communication disorders (Van Lancker 1990 cited in Ulatowska et al 2001). An interaction of cognitive-linguistic ability is required to infer the central meaning of a fable or proverb. In addition, the individual draws on his/her pragmatic knowledge to be able to derive lessons (Ulatowska et al 2001). The metaphorical interpretation of proverbs and fables 'convey general truths about sociocultural principles of appropriate behaviours' (Ulatowska et al 2001: 2) and this aspect of the test battery provides information on the pragmatic knowledge of the persons which has important implications for therapy. Also, the narrative tasks call for a main idea which is linked to the macrostructure of discourse. It is thought that the success in conveying the gist of a story is positively related to the overall communicative success (Nicholas & Brookshire 1995).

### **2.3.1 Other research using the Ulatowska et al (1998) Test Battery**

As was mentioned previously, most of the research over the past few decades has centred on the discourse abilities of middle class Caucasians with neurogenic impairments, in particular aphasia (Ulatowska et al 1998). Recently, Von Benthim (2000) and Venter (2000) have studied discourse performance of the English-speaking and Afrikaans-speaking Cape Coloured South Africans respectively. Also, Ogilvy,

Bentheim, Venter, Ulatowska and Penn (2001) have studied the effects of aphasia on discourse and dialect within the Cape Coloured population.

Some of the main findings of these studies are outlined below:

- The individuals with aphasia produced less language on all discourse tasks, had lower rating on quality of the produced narratives, generally gave more concrete responses on spontaneous interpretation of proverbs and received lower ratings on the multiple choice task compared to the neurologically healthy people (Ulatowska et al 1998, Venter 2000, Von Bentheim 2000 & Ogilvy et al 2001).
- The 'Frightening Experience' task produced narratives containing ethnic discourse markers of a topic association and a high amount of repetition of evaluative information (Ulatowska et al 1998). This task was found to be useful in terms of the elicitation of dialectal features, greater use of evaluative devices in the form of intensifiers and use of discourse ethnic markers (Venter 2000 & Von Bentheim 2000).
- The assessment tool identified the grammatical and lexical features of the Black English Vernacular as well as determining the aphasic features (Ulatowska et al 1998).
- The test proved to be culturally and linguistically appropriate for each of the population tested (Ulatowska et al 1998, Venter 2000 & Von Bentheim 2000).
- Finally, findings suggest that individuals with mild to moderate aphasia exhibited preserved dialectal features, albeit intermingled with aphasia associated difficulties (Ogilvy et al 2001).

### **2.3.2 The Cultural framework**

Culture is the universe of meanings established by the members of a given culture that denotes its fundamental attributes (Wright 1983 in Taylor & Clarke 1994: 103). It is said that a person is not born *with* a culture but *into* a culture, in that s/he needs to be inculcated with the specific habits and belief systems accompanying that culture.

Culture and language are intricately linked as one's culture determines the way in which one speaks, thinks and learns (Taylor & Clarke 1994). Narrative discourse allows a clinician to assess language at its more naturalistic level. By using descriptive measures, the functional aspects of communication have been brought forth. These methods can potentially shed light on a very important question when dealing with a language impaired individual: how proficient is the individual as a communicator? (Reyes 1994).

It is important to document discourse styles of different ethnic groups so that specific discourse features are not misinterpreted as pathological instances. The clinical applicability of the test battery is considerable. It taps a wide variety of discourse abilities, reflects functional discourse abilities as well as cultural themes and it differentiates between aphasic and ethnic features (Ulatowska et al 1998; Wertz et al 2000).

Chapter 3 provides the reader with an appraisal of the language and cultural issues in the Mauritian population

## **CHAPTER 3**

# **LANGUAGE & CULTURAL ISSUES IN MAURITIUS**

In this chapter, the reader is acquainted with a brief linguistic and cultural history of Mauritius and its people.

### **3.1 Brief History**

Mauritius, one of the three small islands collectively called the Mascarene Islands, is located in the South Western Indian Ocean (Bunwaree 1994: 4). Since its discovery in the sixteenth century, Mauritius has been successively colonised by the Dutch, French and British. Dutch ownership spanned over a period of more than a century. Following unsuccessful settlement attempts, they withdrew in 1710. The French East India Company took possession of the island in 1715 and named it Ile de France (Baker 1972; Stein 1982 & Virahsawmy 1991).

The French occupation lasted till 1810 and during that period, Europeans, slaves and non-Europeans traders and artisans came to the island. The Europeans originated mostly from France and Bourbon Island, now known as Reunion Island. The majority of the slaves came from South East Africa and there is evidence that some originated from Madagascar, other parts of Africa, as well as Asia. The non-Europeans were mainly Muslim traders from Western India. The sociocultural matrix was well founded by the time the British took over in 1810 (Baker 1972).

The Dutch name, Mauritius, was restored and they established an administrative rule while the French colonists were allowed to stay. The capitulation treaty guaranteed the maintenance of French law, culture and the Roman Catholic Church. Following the emancipation of slaves in 1835, the British brought indentured labourers from

various parts of India. The literature mentions areas such as Calcutta, Madras, Bombay and the state of Bihar (Baker 1972; Stein 1982 & Virahsawmy 1991).

The twentieth century saw the arrival of Chinese immigrants from Hong Kong and China. These overlapping waves of immigration brought diverse customs, religions and languages to the island (Baker 1972; Bunwaree 1994). Independence was achieved in 1968. Currently, people of Indian origin are a majority.

### **3.2 Ethnic Groups**

The French came to be known as Franco-Mauritians; dominating the sugar and allied industries. The British community being too small to exist as a separate ethnic group was assimilated into the Franco-Mauritian society. The slaves and free coloureds merged into the Creole community and their jobs ranged from senior civil servants to impoverished fishermen. The Indo-Mauritians are comprised mainly of Hindus and Muslims. They became active in any kind of employment but mostly in agriculture and commerce. Finally, the Chinese established themselves as the Sino-Mauritians and are actively involved in the retail trade (Baker 1972; Bunwaree 1994). The 1.2 million inhabitants are divided into four ethnic groups as can be seen in Table 3.1

*Table 3.1: Ethnic distribution in Mauritius*

<b>Ethnic group</b>	<b>Estimated percentage</b>
Indo-Mauritian	68%
Creole	27%
Sino-Mauritian	3%
Franco-Mauritian	2%

(<http://www.sil.org/ethnologue/countries/Maut.html>)

The population now forming the Mauritian nation is difficult to define especially when dealing with a society divided vertically into classes and horizontally into ethnic, linguistic, religious groups and further divided into castes and subcastes

(Virahsawmy 1991: 3). Moreover, religion which previously determined 'ethnicity' has now been overtaken by linguistic considerations as elaborated below.

### **3.3 Languages in Mauritius**

Ethnicity, religion and language divide Mauritians. In fact, an individual is Hindu or Catholic, Hindu or Muslim, Franco-Mauritian or Creole, Chinese or Tamil. The Mauritian identity per se is an obscure notion (Lehembre 1984 cited in Bunwaree 1994). The different ethnic groups came down with each of their own home languages, customs, traditions and religions with the result that the island is a melting pot of European and Oriental cultures.

#### **3.3.1 Diversity of languages**

About eighteen languages are recognised as the home languages of the inhabitants. These are Bengali, Bhojpuri, Cantonese, Gujerati, Hakka, Hindi, Hindustani, Kokni, Kutchi, Mandarin, Marathi, Punjabi, Tamil, Telegu and Urdu; forming the bulk of Eastern influence. The European languages included French and English while Creole emerged as a purely Mauritian product (Baker 1972).

The Oriental languages were gradually incorporated in the already established sociocultural matrix with English as the official language while French was attributed a semi-official status. Creole established itself as the national common link language; being spoken by most Mauritians irrespective of ethnic group (Virahsawmy 1991 & Hookoomsing 2000). Most of the Eastern languages suffered a general decline due to contact with dominant languages. Table 3.2 illustrates a breakdown of current languages spoken in rural and urban areas in Mauritius. Only Oriental languages reflecting a substantial percentage of users are included.

*Table 3.2: Current languages spoken in Mauritius*

<b>Population</b>	<b>Urban</b> <b>411,664 (40.3%)</b>	<b>Rural</b> <b>610,792 (59.7%)</b>	<b>Total</b> <b>1,022,456 (100%)</b>
Creole	305,025 (74.5%)	312,605 (51.2%)	617,630 (60.4%)
Bhojpuri	18,104 (4.4%)	183,512 (30%)	201,616 (19.7%)
French	26,198 (6.4%)	8,145 (1.3%)	34,343 (3.3%)
English	1,519 (0.4%)	713 (0.1%)	2,232 (0.2%)
Hindi	2,728 (0.7%)	10,117 (1.6%)	
Marathi	1,633 (0.4%)	5,902 (1%)	7,535 (0.7%)
Tamil	2,387 (0.6%)	5,615 (0.9%)	8,002 (0.8%)
Telegu	1,206 (0.3%)	5,231 (0.8%)	6,437 (0.6%)
Gujerati	#	#	290 (0.03%)
Urdu	1,145 (0.3%)	5,659 (0.9%)	6,804 (0.7%)
Arabic	#	#	208 (0.02%)
Chinese	3,009 (0.7%)	641 (0.1%)	3,650 (0.3%)

(Source: Population Census of Mauritius, Central Statistical Office, Mauritius 1990 in Hookoomsing 2000)

Table 3.2 shows the predominance of Creole and Bhojpuri. However, Creole takes precedence as the main mode of oral communication in rural and urban areas alike while Bhojpuri is favoured in the countryside. French is employed by a notable percentage of Mauritians compared to other languages. English, despite its official status, scored a negligible percentage. This is unsurprising considering that it was never the mother tongue of a sizeable ethnic group (Hookoomsing 2000).

### **3.3.2 Bilingualism**

Most Mauritians enjoy a bilingual status and multilingualism is not uncommon considering the linguistic diversity of the island. The number of languages spoken by an individual is dependent upon wealth, education, ancestry and position in society (Stein 1982). Table 3.3 indicates the state of bilingualism in Mauritius.

*Table 3.3: Current bilingualism status in Mauritius*

	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
<b>Creole &amp; Bhojpuri</b>	12,668	35,906	48,574
& French	16,109	5,217	21,326
& Hindi	1,607	1,819	3,426
& Marathi	496	1,283	1,779
& Tamil	2,514	2,798	5,312
& Telegu	368	1,429	1,797
& Urdu	4,136	2,342	6,478
& Other	#	#	1,701
& Chinese	1,794	261	2,055
			<b>92,448</b>
<b>Bhojpuri &amp; Creole</b>	12,668	35,906	48,574
& Hindi	3,106	17,870	20,976
& Urdu	51	552	603
& Other	#	#	374
			<b>70,527</b>

Key: Other: Other Indian languages

(Source: Population Census of Mauritius, Central Statistical Office, Mauritius 1990 in Hookoomsing 2000)

As can be seen from Table 3.3, Creole presents as the only language which can effectively combine with other languages acknowledged in the Mauritian context. Of particular interest, is the urban-rural demarcation. Creole, French, English and Chinese combinations are apparent in the urban setting while trends with Indian languages are distinct in rural areas. Also, the use of Bhojpuri is in decline as a general shift towards enhanced use of Creole is apparent (Hookoomsing 2000).

### **3.3.3 Language in use**

Languages are linked to specific purposes in Mauritius. Baker (1972) noted that English is associated with 'knowledge', French with 'culture', Creole with

'egalitarianism' and other languages as 'ancestral heritage'. Creole emerges as the lingua franca; being the language spoken in most homes. English has an official status and is the language of administration, law, education, business and industry while French is attributed a semi-official status. However, it is the language of the dominant social group and of the printed media. More and more Mauritians are acquiring the French language through the school medium (Bunwaree 1994; Hookoomsing 1997,2000).

The education system being based on English and French, Mauritians learn to read and write, with understanding, in these two languages (Bunwaree 1994; Hookoomsing 1997). Table 3.4 gives a breakdown of the languages read and written in the country.

*Table 3.4: Languages read and written*

<b>Population (+12yrs)</b>	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
	<b>322,986</b>	<b>462,077</b>	<b>785,063</b>
Creole	13,519	15,113	28,632 (3.6%)
Bhojpuri	562	2,376	2,938 (0.4%)
Creole & Bhojpuri	859	3,279	4,138 (0.5%)
Oriental languages (OL)	7,810	16,447	24,257 (3.1%)
European languages (EL)	211,437	197,959	409,396 (52.1%)
European & Oriental languages	48,956	120,767	169,723 (21.6%)
None	39,293	105,469	144,762 (18.4%)

(Source: Population Census of Mauritius, Central Statistical Office, Mauritius 1990 in Hookoomsing 2000)

Despite being dominant languages in the oral mode, Creole and Bhojpuri scored negligible percentages as literacy languages. This is because they are excluded from the school curriculum. High levels of literacy of European languages are distinct. This is a direct reflection of the association of English and French with education and knowledge which in turn affects social and professional prospects (Hookoomsing 2000).

In brief, three distinct domains can be categorised depicting the language used in different situations. Table 3.5 summarises this trend.

*Table 3.5: Languages v/s domain of use*

<b>Language</b>	<b>Domain</b>
Creole (mainly oral use)	Home/private, informal/public
Oriental languages and increasingly Creole	Symbolic reference and cultural identity
European languages	Education, information, social and professional advancement

(Hookoomsing 2000)

This chapter concludes with a discussion of the Creole language as it is the main focus of this study.

#### **3.3.4 Mauritian Creole (MC)**

Creole is defined as an ordinary language that is derived from a pidgin and has become the first language of a community; adopting the full range of functions of community life. Creole is notably richer in lexicon and structure than the pidgin from which it arose. In most circumstances in which Creoles are found, they are considered socially inferior even though sometimes thought superior in expressiveness (Hymes 1968 cited in Stein 1982: 5).

The French Creoles are known to be employed in two geographical zones: the American zone and the Indian Ocean zone. Mauritius forms part of the latter part together with the Seychelles, Reunion Island and Rodrigues. The Mauritian Creole resembles closely to that of Rodrigues and the Seychelles but differentiates considerably from Reunion Creole through the linguistic structure (Stein 1982).

Mauritian Creole is a potential symbol of national consciousness as contrary to the other languages spoken in the country, it is a native language. It originated in the eighteenth century slavery; emerging as the means of communication among slaves and between slaves and their French masters. The Asian immigrants gradually adopted Creole to be able to deal verbally with local events. Also, the islanders probably felt the need to have a language which everybody understands in a multilingual situation. Creole was favoured because of its grammatical simplicity compared to the complex Oriental languages (Baker 1972).

Considering the Mauritian context, Mauritian Creole is best acknowledged as the first language of most Mauritians instead of their mother tongue (Baker 1972). According to Virahsawmy (1991: 4), the term 'mother tongue' refers to the language usually spoken in his/her early childhood.

The association of Mauritian Creole with slavery has brought contempt and prejudice around the language. Despite its roots in French, it is thought to be unworthy of an academic language for reasons of status and sophistication. In fact, it lacks standardised orthography which further undermines its status (Bunwaree 1994). However, an educated individual can use his/her writing skills in the European languages to write Creole (Hookoomsing 2000). But, writing is heavily influenced by French and most Mauritians have a tendency to write the French term instead of the actual Creole form. Over the years, there has been growth of Creole as a literary medium. But, this effort is met with general indifference from the public who prefers to direct their literary skills towards languages which are universally understood (Baker 1972).

Considering the contact of Creole with other languages in Mauritius, varieties of the language have emerged. According to Baker (1972), four types are recognised. These are:

- Ordinary Creole: spoken by most Mauritians in all situations.

The present study focuses on the use of Ordinary Creole as it is the language spoken by most Mauritians irrespective of ethnic group.

- Bhojpuri-influenced Creole: used by islanders whose mother tongue is Bhojpuri.
- French-influenced Creole: employed by inhabitants whose mother tongue is French.
- Refined Creole: adopted by people who are speakers of Ordinary Creole but in certain circumstances feel that the refined form is more socially acceptable.

The vocabulary of Mauritian Creole is mainly derived from French. However, many Mauritian Creole terms differ from their equivalent French forms in terms of pronunciation and/or word form. Functional and semantic differences are also recognised. Moreover, terms from the vocabulary of other languages are existent in Mauritian Creole but to a lesser degree than French. Loan words from English and Indian languages are common. Some authors have also mentioned derivations from Malagasy, Portuguese, Chinese and Arabic but to a negligible extent (Baker 1972).

However, Virahsawmy (1991) challenges the description of Mauritian Creole as 'French-based'. This author remarked that there is a fundamental difference between French and Mauritian Creole in syntactic structure as elaborated below.

- The syntactic substance of Mauritian Creole may be of French origin but the form is of a different nature. The following analogy best supports this point: 'Water (substance) is used to make steam (substance) but steam is morphologically different from water.
- The syntactic markers of Mauritian Creole considered as substance may be of French origin but their *functions* are specific to Mauritian Creole and very remote from French.

- At the level of the lexicon, all generic terms are of French origin but as the language grows, it develops its own energy and resources.

(Virahsawmy 1991: 27)

The language issue is probably the most complex aspect of the Mauritian society. A number of languages are spoken with their different uses coupled with their socio-political implications. In informal situations, Creole takes precedence over other languages as the main mode of oral communication. An important percentage of Bhojpuri-speakers are recognised but this is limited to the countryside. Formal settings call for use of European or Oriental languages as culture, knowledge and ancestry become significant under these circumstances (Baker 1972). Even then, a standard language may be employed concurrently with the other. To explain this issue further consider the following article 49 from the constitution of the fourth March 1968 whereby it was written that 'the official language of the Assembly is English, but any deputy can address the assembly in French' (Favoreu 1970: 79 cited in Stein 1982: 114). Ward (1941: 12 in Stein 1982: 159) wrote that '... although Mauritius uses both English and French for official purposes, ... and is sometimes spoken of as a bilingual country, ... In Mauritius however, of the two official languages, French is a foreign language to most and English is foreign to all'.

Most of the languages spoken in Mauritius are standard complete with grammatical and orthographic norms (Stein 1982). Stewart (1968: 534 in Stein 1982: 128) defines standardization as 'the codification and acceptance, within the community of users, of a formal set of norms defining 'correct' usage'. In a multilingual society, it is common that languages compete with each other for status and prestige. In Mauritius, the situation is unique in the whole world considering the multitude of languages in use, diversity of their origin and the fact that different groups value different languages differently (Stein 1982).

Mauritian Creole emerges as the only language which can potentially bring forth the notion of 'Mauritian identity'. The ethnic groups in Mauritius dictate what language/s an inhabitant speaks. However, Mauritian Creole acts as a unifying factor erasing barriers laid down by religion and culture. As Virahsawmy (1991: 27) argued, 'Mauritian Creole is not to be reckoned as the shadow of another language, let alone

the bastardised, impoverished and decadent appendix of French. It is an autonomous linguistic and cultural reality and must be acknowledged as such. Its historical links with French cannot be ignored, but that does not make it a Neo-Romance Language or a dialect of French (Virahsawmy 1991: 27).

This chapter is aptly concluded by the following description of Mauritius:

‘Une colonie anglaise par le drapeau, indienne par la race et française par le langage,  
les mœurs et les traditions’

(H De Rauville 1908: 342 in Stein 1982: 108)

*‘An English colony through its flag, Indian through its race and French through its  
language, beliefs and traditions’*

Chapter 4 now proceeds with a description of the methodology adopted for the present study.

## **CHAPTER 4**

# **METHODOLOGY**

This section presents the aims, methodological design, subject selection criteria and the description of the subjects used in the study. Also, the adapted version of the Discourse Test Battery (Ulatowska et al 1998), methods of data collection and analysis are described.

### **4.1 Aims**

#### **4.1.1 Primary aims**

- To characterise the discourse performance of Creole-speaking Mauritians with mild to moderate aphasia (experimental subjects) and Creole-speaking Mauritians, with no known neurological impairment (control subjects), using an adapted version of the Ulatowska Discourse Test Battery.
- To determine the task effects on narrative discourse performance.
- To determine the appropriacy of the battery as a culturally and linguistically sensitive assessment tool in the Mauritian context.

#### **4.1.2 Specific aims**

- To ascertain whether there were differences between the experimental and control groups in their discourse performance.
- To determine whether discourse tasks differentiated the experimental and control groups in the amount of information, the quality of information and the number of evaluative devices present in the narratives.
- To note the Mauritian discourse characteristics in the narratives of this cultural group.

- To determine the adaptation features employed by the experimental and control groups.
- To investigate the differences in proverb interpretation for the experimental and control groups.

## **4.2 Research Design**

A descriptive research design was employed in this study. Both qualitative and quantitative analyses were undertaken. A factorial design with 2 group levels (experimental and control subjects) and six task levels (story generations from 2 pictures, story sequence, story retell from a fable and a personal narrative) were employed in this study. Differences between the experimental and control groups were evaluated according to group and task effects.

## **4.3 Subjects**

### **4.3.1 Sample size**

Ten Creole speaking Mauritians with mild to moderate aphasia and ten Creole speaking Mauritians, matched for age, sex and education level, with no known neurological involvement participated in this study.

### **4.3.2 Subject selection criteria**

Experimental and control subjects were required to present with Creole as their first and primary language. All subjects were to have a minimum of a Grade 6 education level as certain tasks on the battery warrant the manipulation of complex linguistic tasks.

The following criteria were applied in the process of selection of the experimental subjects:

- All experimental subjects were required to have had a left-sided CVA.

- All experimental subjects were required to be at least three months post left-sided CVA to account for neurological stability.
- All subjects were to be right-hand dominant.
- The experimental subjects were to have no prior history of neurological impairments, including no additional CVA's.
- Experimental subjects were to score as mild to moderate aphasics on the Western Aphasia Battery (WAB) (Kertesz 1982).

#### **4.3.3 Availability of experimental subjects**

The research proposal was sent to the Ministry of Health and Quality of Life in Mauritius. Following their approval, access to patients and files in government hospitals was facilitated. Likewise, private clinics and institutions were contacted.

#### **4.3.4 Subject consent**

Consent was obtained from both experimental and control groups prior to data collection. The research aims and procedures were described to the participants and to their families. Permission was obtained from the experimental subjects for the researcher to obtain additional medical information from their hospital records. A copy of the consent form is presented in Appendix A.

#### **4.3.5 Pre-Data Collection**

To ensure subject selection adequacy, the Language History Questionnaire (Paradis 1987) and the Western Aphasia Battery (WAB) (Kertesz 1982) were administered prior to implementation of the discourse battery.

- **The Paradis (1987) Bilingual History Questionnaire**

The questionnaire was employed so as to:

- determine the subjects' level of exposure to the Creole language; hence providing insight into frequency of use.

- investigate probable exposure to other languages which has the potential to interfere with the production of Creole.
- The bilingual questionnaire was specifically used as considering the multilingual nature of the Mauritian population, there is the strong possibility of the subjects' exposure to more than one language.

See Appendix B for the questionnaire used. The researcher arranged an initial interview with each one of the subjects for pre-data collection testing.

- **Western Aphasia Battery (WAB)**

For the purposes of this study, the WAB was administered to determine the severity of the subjects' aphasia. The test yields the aphasia quotient score which is a 'functional measure of the severity of spoken language deficit in aphasia' (Shewan & Kertesz 1980:309 cited in Crary & Rothi 1989:163). The AQ is thus a numerical composite score obtained by scoring the following test components:

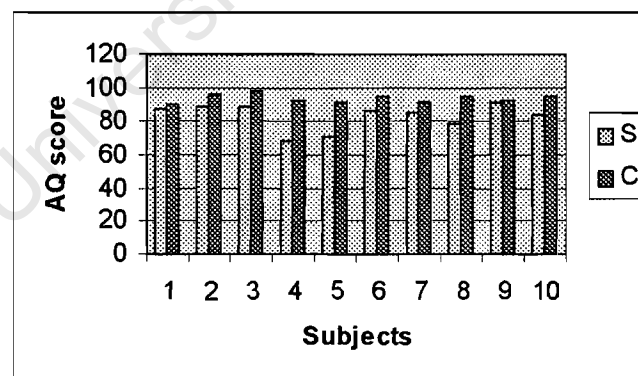
- Spontaneous speech
  - Information content
  - Fluency, grammatical competence and paraphasias
- Auditory verbal comprehension
  - Response to yes/no questions
  - Auditory word cognition
  - Sequential commands
- Repetition
- Naming
  - Object naming
  - Sentence completion
  - Responsive speech

The cortical quotient section of the WAB was not considered as it focused on reading and writing abilities of the patients. These two modalities are not prerequisites for the administration of the Discourse Test Battery (Ulatowska et al 1998).

A translation of the WAB was required and adaptations were made to account for cultural differences and familiarity of words, sentences and objects to Mauritians. Adaptations to the WAB for the purposes of this study included the following:

- All instructions were provided in the Creole language.
- The items in the repetition section were all translated into Creole and care was taken to match for word, phrase and sentence length.
- Due to inaccessibility and unfamiliarity of some test objects to the Mauritians, changes were made to the object naming subsection. 'Gun' was substituted for 'bag'; 'paperclip' was substituted for 'mirror'. Again, all adaptations attempted to match for word length.

The test was administered in accordance to the test manual (Kertesz,1982). Figure 1 below illustrates the Aphasia Quotient scores obtained from both groups.



Key:

S: Experimental subjects

C: Control subjects

*Fig 1: AQ scores of the experimental and control subjects*

All experimental subjects scored lower than their matched controls. However, none of the controls scored optimally at 100. They tended to score lower on picture description ratings and word fluency. The highest AQ score for the control group was obtained by C3 and the lowest by C5 and C7. The scores of the other controls did not differ much from each other (2-6 points difference in scores).

In the experimental group, S4 had the lowest score while the highest score was obtained by S3. The differences in scores within the group were variable. While the control subjects tended to show slightly poorer performance on two specific tasks only, the experimental subjects experienced difficulties across all tasks of the WAB.

#### 4.3.6 Subject description

All the experimental subjects (S1-S10) met the selection criteria. Tables 4.1 and 4.2 illustrate biographical information obtained from case history interviews as well as clinical information obtained from patient medical files for the experimental subjects.

*Table 4.1: Experimental group subject description*

S	CA	Sex	Time post CVA in months	Education level (Grade)	Occupation	Other languages used	Exposure to other languages
1	60.1	F	23	7	Housewife	Urdu	Home
2	70.5	M	24	6	Farmer	Urdu	Home
3	42.8	M	17	12	Bookkeeper	Eng & Fr	School
4	40	M	19	10	Shopkeeper	Eng & Fr	School
5	53.9	M	17	6	Carpenter	None	N/A
6	66.3	F	24	7	Housewife	None	N/A
7	59.8	M	5	6	Farmer	Bhojpuri	Home
8	52.1	M	7	10	Taxidriver	Bhojpuri	None
9	48.1	M	4	12	Foreman	Eng & Fr	School
10	51.7	M	21	7	Carpenter	None	N/A

Table 4.2: Control group subject description

<b>C</b>	<b>CA</b>	<b>Sex</b>	<b>Education level (Grade)</b>	<b>Occupation</b>	<b>Other languages used</b>	<b>Exposure to other languages</b>
<b>1</b>	59.7	F	6	Housewife	None	N/A
<b>2</b>	69.7	M	7	Farmer	Bhojpuri	Home
<b>3</b>	42.4	M	12	Technician	Eng & Fr	School
<b>4</b>	40.2	M	12	Machinist	Eng & Fr	School
<b>5</b>	59.4	M	6	Farmer	Bhojpuri	Home
<b>6</b>	56.4	F	7	Housewife	None	N/A
<b>7</b>	62.11	M	7	Shopkeeper	Urdu	Home
<b>8</b>	57.11	M	12	Teacher	Eng & Fr	School
<b>9</b>	54.1	M	12	Officer	Eng & Fr	School
<b>10</b>	46.2	M	7	Machinist	None	N/A

Key for Tables 4.1 & 4.2:

S: Experimental subjects

C: Control subjects

CA: Chronological age

F: Female

M: Male

N/A: Not applicable

Eng & Fr: English & French

As can be seen from Table 4.1, the experimental subjects' education level varies from Grade 6 to Grade 12. Also, the time post CVA ranges from 5 months to 24 months. The age range includes 40.0 to 60.1 years and seven of the experimental subjects speak more than one language. It is noted that this variability is acknowledged and accounted when the results of the study are discussed in Chapter 5. The control subjects were matched closely to the experimental subjects for age, sex and education. They had no known neurological impairments.

## **4.4 Data collection**

### **4.4.1 Discourse Test Battery**

An adapted version of the Ulatowska et al (1998) Discourse Test Battery was used to elicit narrative discourse samples from the subjects. The battery consists of five different stimuli consisting of two composite picture tasks, one picture sequence task, one story retell and a personal narrative. Also, five familiar idiomatic Creole expressions were included to elicit spontaneous interpretations as well as multiple choice responses.

#### **4.4.1.1 Adaptations to the battery**

- All instructions were translated into Creole.
- The composite pictures (Easter morning and Counting money) were substituted for two other pictures (The Fall and Crocodile Attack) which attempted to approximate the original composite pictures in terms of emotional content and number of characters involved. These changes were carried out as the pictures employed in the Ulatowska et al (1998) battery were thought to be culturally inappropriate for the Mauritian population. The 'Easter morning' is directed at a largely Christian population while most Mauritians are Indians with mostly Eastern culture and religion. Also, the 'Counting money' picture involved black people who are not common to the Mauritian context.
- The proverbs were all substituted for idiomatic Creole expressions, with the exception of the first proverb from the Ulatowska et al (1998) battery 'when the cat's away, the mice will play'.

A pilot study was conducted so as to determine the familiarity of the proverbs used in the Ulatowska et al (1998) battery. The findings from the pilot study revealed that all the proverbs, except for 'when the cat's away, the mice will play', are unfamiliar to the Creole speaking population of Mauritius. Furthermore, direct translation of the proverbs from the Ulatowska et al (1998) battery resulted in the proverbs losing their abstract meaning and could result in problematic interpretation.

Hence, the proverbs were substituted with idiomatic expressions which were found to be most familiar in the Mauritian context. The idiomatic expressions to be included in the battery were selected according to familiarity. A pilot study was conducted to select the particular idiomatic expressions.

- **Pilot study**

The pilot study included a sample with a primary level of education as well as a more advanced level of education so as to ascertain that these expressions were indeed familiar to all educational stratum of society.

Ten idiomatic Creole expressions were randomly selected and presented to thirty Mauritians with educational levels ranging from Grade 6 to Grade 12. They had no known history of neurological disorders and their age range was between 40 and 75 years old.

The ten idiomatic expressions listed below are abbreviated as 1 – 10 and are listed in Table 4.3. The tentative translations to English as well as interpretations have been included for the benefit of the reader.

Table 4.3: List of expressions

Idiomatic expression	Creole	English translation
1	Dilo suive canal	Water follows the river <i>(Children will follow their parents' way)</i>
2	Kan sat pa la, le ra fer bal	When the cat's away, the mice will play <i>(When the boss is gone, everybody has fun)</i>
3	Marie pike	Marry and work <i>(Let's work together)</i>
4	Mo dan pince	I am in a tight spot <i>(I have a problem)</i>
5	Caraille so	The pot is heating up <i>(I am in deep trouble)</i>
6	Mon gagne la tete	I get a big head <i>(I was so embarrassed)</i>
7	Sap dan caraille tombe dan dife	From the pot into the fire <i>(From one problem to a worse one)</i>
8	Zaco dan la musik	Monkeys dancing to music <i>(I don't understand anything)</i>
9	Mo lave la main r toi	I wash my hands off you <i>(I don't want to have anything to do with you)</i>
10	La main grate	Hands are itching <i>(Looking for trouble)</i>

The subjects were instructed to note by a tick or a cross whether the expression was familiar or not, respectively.

Tables 4.4 illustrates the results of this study.

Table 4.4: Responses to the familiarity of the idiomatic expressions

Idioms	1	2	3	4	5	6	7	8	9	10
M1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
M2	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
M3	✗	✓	✗	✓	✓	✓	✓	✗	✓	✗
M4	✗	✓	✓	✓	✓	✓	✗	✗	✓	✓
M5	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
M6	✓	✓	✗	✓	✗	✗	✗	✓	✓	✗
M7	✗	✓	✗	✓	✗	✓	✓	✓	✓	✗
M8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
M9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
M10	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓
M11	✗	✓	✗	✓	✓	✓	✗	✓	✓	✓
M12	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓
M13	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓
M14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
M15	✗	✓	✓	✓	✓	✓	✗	✓	✓	✗
M16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
M17	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
M18	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓
M19	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓
M20	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗
M21	✗	✓	✗	✓	✓	✓	✓	✓	✓	✗
M22	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
M23	✗	✓	✓	✓	✗	✓	✓	✓	✓	✗
M24	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗
M25	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
M26	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
M27	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓
M28	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
M29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
M30	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓

Key: ✓: Familiar ✗: Not familiar

Each tick was scored as one point while a cross was attributed a zero. The total scores obtained were calculated for each idiomatic expression. Five of the most familiar expressions were chosen for this study on the basis that they received the highest scores overall. Table 4.5 illustrates the calculated scores obtained.

*Table 4.5: Scores for sample of Mauritians*

	1	2	3	4	5	6	7	8	9	10
✓	22	30	19	30	23	27	20	28	28	19
✗	8	0	11	0	7	3	10	2	2	11

From the Table 4.5 above, expressions 2, 4, 6, 8 and 9 were shown to be the most familiar.

#### **4.4.2 Description of tasks and stimuli**

The Ulatowska et al (1998) Discourse Test Battery was used to elicit narrative discourse samples from both the experimental and control groups. Five different stimuli were used to obtain the narrative samples. These consisted of two single picture descriptions, the 'Apple Theft' picture sequence description, a 'Fable' story retelling and a 'Personal experience' narrative. In addition, five familiar idiomatic expressions were used to obtain spontaneous interpretations. The different stimuli used are outlined in Table 4.6 and were adopted from Ulatowska et al (1998).

Table 4.6: Description of tasks and stimuli adapted from Ulatowska et al (1998) Discourse Test Battery.

Test stimuli	Description of stimuli	Description of task
<p><b>Composite pictures</b></p> <p><u>The fall</u></p> <p><u>Crocodile attack</u></p>	<p>Simons &amp; Vosloo (1988) picture of a girl falling off a mountain.</p> <p>Simons &amp; Vosloo (1988) picture of a crocodile attack involving a boy and his father.</p>	Requires generation of stories and main idea of stories.
<p><b>Picture sequence</b></p> <p><u>Apple theft</u></p>	A sequence of 4 pictures depicting 2 boys trying to steal apples from somebody's yard.	Requires generation of a story and main idea as well as lesson of story.
<p><b>Fable</b></p> <p><u>Farmer &amp; sons</u></p>	A fable about a farmer who dies and leaves his vineyard to his sons.	Requires retelling of the fable and includes main idea and lesson
<p><b>Personal experience</b></p>	A self-generated narrative about a memorable experience.	Requires generation of their own story.
<p><b>Idiomatic Creole expressions</b></p>	5 familiar expressions presented to subjects.	Requires spontaneous interpretations and choice of best interpretation from multiple choices.

The various narrative tasks assesses different levels of language and cognitive complexity as illustrated in Table 4.7:

Table 4.7: Language and cognitive requirements for narrative and proverb tasks (Ulatowska et al, 1998)

Task	Required skills	
	Language	Cognition
Self-generated story	Joining of sentences	Narrative imagination and employment
Retell	Joining of sentences	Working memory and attention
Summary	More complex language skills	Reduction of information and generation
Main idea	Abstract thinking	Generalisation
Lesson	Abstract thinking	Generalisation
Idiomatic expressions spontaneous interpretation	Metaphoric language	Generalisation

Considering that adaptations have been made to the Ulatowska et al (1998) Discourse Test Battery, examples of this adapted version is illustrated in Appendix D.

## 4.5 Procedure

### 4.5.1 Testing sessions

The researcher met with each subject twice. The first meeting focused on establishing rapport and administration of the language questionnaire and the WAB. If the subjects met the selection criteria outlined in Section 4.3.2, they were included in the study. Then a second visit was organised for the administration of the discourse test battery.

#### **4.5.2 Testing environment**

A quiet room with adequate lighting and ventilation was employed for test administration. The subjects faced the researcher during the administration of the questionnaire and WAB. For the discourse test battery, the subjects were seated in a chair opposite a video camera as all discourse productions were videotaped for analysis.

#### **4.5.3 Equipment**

The sessions were videotaped using a wide lens X28 Digital Panasonic VHS Movie Camera NV-M50.

#### **4.5.4 Instructions**

##### **4.5.4.1 Language History Questionnaire**

This consisted of interview sessions with the subjects whereby the researcher presented the questions in the Creole language in the order in which they appear in Appendix 6.

##### **4.5.4.2 Western Aphasia Battery**

Adaptations made to this test have been discussed previously in Section 4.3.5. The test was administered in accordance to the test manual (Kertesz 1982).

##### **4.5.4.3 Ulatowska et al (1998) Discourse Test Battery**

Instructions were provided in accordance to the test manual of Ulatowska et al (1998). All instructions were translated to Creole for both experimental and control subjects. No time limits were imposed and no constraints were placed on length of narratives during the assessment.

- **Single Pictures stimuli (The Fall, Crocodile Attack)**

The pictures were presented individually to the subjects and they were given time to study the picture. They were required to make a story based on what was happening in the picture; including the people and events in the narrative. The picture was removed, then they were asked to narrate the story. On completion of this task, they were required to supply the main idea of the narrative.

- **Sequence Picture stimuli (Apple Theft)**

All four sequence pictures were presented to the subjects and they were allowed time to study all pictures carefully. They were required to make a story based on what was happening in the various pictures. On completion of their narratives, they were required to provide the main idea as well as a lesson.

- **Personal Experience narrative (Frightening Experience)**

The subjects were required to relate a personal narrative based on a personal frightening experience.

- **Story Retell (Fable)**

A translated version of the 'Farmer & sons' fable was presented to the subjects in the written form. When the subjects were ready, the text was removed and the participants were instructed to recount the story to the researcher. They were required to provide the main idea and lesson of the fable.

- **Idiomatic Creole expressions**

The subjects were first presented with two examples of idiomatic expressions so as to acquaint them with the nature of the task. These two examples, given below, were not included in the assessment.

1. Kan ress are lichien, gagne pice

*When you stay with dogs, you will get fleas*

2. Pez nene, boire de lui

*Pinch your nose and drink oil*

The four idiomatic expressions and one proverb selected for this study are listed below. The tentative English translations have been included for the benefit of the reader.

○ I1: Kan sat pa la, le ra fer bal

*When the cat's away, the mice will play*

○ I2: Mo lave la main are toi

*I wash my hands off you*

○ I3: Zaco dan la misik

*The monkey is dancing to music*

○ I4: Mon gagne la tete

*I got a big head*

○ I5: Mo dan pince

*I am in a tight spot*

The expressions were presented one by one to the subjects. They were first asked whether the expressions were familiar or not before providing a spontaneous interpretation.

The multiple choice formats of the same expressions were presented to the subjects. The researcher read each expression and accompanying choices for the subjects. They were asked to provide the answer that best matched the given expression either verbally or by pointing.

Spontaneous and multiple choice idiomatic expressions' tasks were scored in accordance to the accuracy of the response obtained (Ulatowska et al 1998).

## **4.6 Treatment of data**

### **4.6.1 Transcription of data**

The videotaped sessions were transcribed word for word and analysed.

## **4.7 Analysis of results**

Both qualitative and quantitative analyses were undertaken to determine any similarities and differences between and within the groups. In addition, a statistical analysis was carried out in an attempt to differentiate between the experimental and control groups per task across all features analysed.

### **4.7.1 Word count**

The number of meaningful words per narrative were counted. Repetition of meaningful sounds, words, phrases and ideas as well as false starts have been included as these are possible indicators of aphasic output. Unintelligible words or phrases and sounds were excluded from the word count.

### **4.7.2 Propositional analysis**

All narratives were divided into propositional units which is defined by Ulatowska et al (1998) as an informational unit containing a verb and an argument.

### **4.7.3 Ratio**

The ratio of number of words in each narrative to number of propositional units was calculated for all subjects.

#### 4.7.4 Quality analysis

The discourse battery (Ulatowska et al 1998) provides a quality rating scale and the aspects rated include global structure (all narratives except fable), completeness (fable), temporal sequence, reference, suspense (all narratives except fable), accuracy (fable), coherence and clarity. These are further described in Table 4.8:

*Table 4.8: Discourse features and the rating scale (Ulatowska et al 1998)*

<b>Global structure (narratives)</b>	Evaluates presence of setting, complicating action, resolution and coda.	0 – 4 points
<b>Completeness (fable)</b>	Completeness of critical story elements	
<b>Temporal sequence</b>	Evaluates chronology of events in the narratives.	0 – 3 points
<b>Reference</b>	Evaluates occurrence of reference errors.	0 – 3 points
<b>Suspense (narratives)</b>	Evaluates presence of suspense.	0 – 3 points
<b>Accuracy (fable)</b>	Evaluates correctness of information.	
<b>Coherence</b>	Evaluates continuity of ideas.	0 – 3 points
<b>Clarity</b>	Evaluates clarity of language	0 – 2 points
<b>Maximum score</b>		<b>18</b>

#### **4.7.5 Generalisation of information**

- **Rating of main idea and lesson**

All narratives warranted the provision of a main idea. The subjects were additionally requested to provide a lesson for the fable and 'Apple theft' stories. These tasks were rated according to the appropriateness and the type of generalisation (Ulatowska et al 1998).

#### **4.7.6 Analysis of evaluation**

According to Labov (1972), evaluation forms an important component of narrative discourse. Evaluative devices are employed so as to convey a more interesting picture of the complicating actions and the resolution in most narratives. They contribute towards the well-formedness of the narrative and makes it worth telling and worth hearing (Ulatowska et al 1983).

Four main subtypes are recognised in the analysis of evaluation. These are: intensifiers, comparators, correlatives and explicatives (Labov 1977). This study focuses on intensifiers, since they are considered as one of the richest evaluative elements in discourse (Von Bentheim 2000, Venter 2000). The various subtypes of intensifiers are illustrated in Table 4.9 (Labov 1977):

Table 4.9: Evaluation of intensifiers in discourse (Labov 1977)

Category	Subtype	Description
Intensifiers: These select a linear event and intensify it.	Gesture	Gestures indicating meaning
	Expressive phonology	A word/sentence/phrase/syllable emphasized for meaning
	Quantifiers	Indicates number of events
	Repetitions	Intensifies a particular action and suspends it
	Ritual utterances	Inexpressive utterances particular to a culture and play an evaluative role
	Lexical items	An adjective intensifying a word
	Others (includes potential intensifying elements that do not fall in the ones above)	This includes 'very, so, really' etc

#### 4.7.7 Adaptation features

This section of the analysis considers the compensatory strategies employed by the subjects. Larfeuil and Le Dorze (1997) note that some adaptation features particular to individuals with aphasia include self-correction, modalisation, circumlocutions, repetitions and filled as well as unfilled pauses. Furthermore, difficulties due to a language impairment give rise to word-retrieval problems, semantic and phonological paraphasias (Milroy & Perkins 1992).

The present study documents two types of adaptation features: general adaptation features and aphasic adaptation features. General adaptation features included repetition

for no effect, false starts, pauses and empty fillers while aphasic adaptation features included phonemic paraphasias, semantic paraphasias and word finding difficulty. An analysis of these different features was carried out to find out whether there was a difference in the extent of use of these adaptation features between the experimental and control groups. In addition, Ulatowska et al (2000b) noted that repetition for effect could potentially be employed as a compensatory strategy by people with aphasia. Therefore, this section further provides a differentiation between groups on the incidence of repetition for effect.

#### **4.7.8 Characteristics of Mauritian discourse**

To highlight the characteristics of Mauritian discourse, the present study drew upon the work of Baker (1972) and Virahsawmy (1991). The narratives of the subjects of this study were studied and based in accordance to Baker (1972) description of Mauritian Creole and specifically, Virahsawmy (1991) description of the syntactic structures and lexical development of Mauritian Creole.

#### **4.7.9 Idiomatic Creole expressions**

##### **4.7.9.1 Spontaneous responses**

The subjects were required to provide the meaning of these expressions. The responses were rated according to the Ulatowska et al (1998) rating scale as illustrated in Table 4.10.

Table 4.10: Expressions' rating scale (Ulatowska et al 1998)

Type of response	Points
Correct complete abstract response	6
Correct partial abstract response	5
Response with an abstract component	4
Correct concrete response	3
Correct partial concrete response	2
Incomplete response with a concrete component	1
Incorrect abstract response	0
Incorrect concrete response	0

#### 4.7.9.2 Multiple choice formats

For each expression, a set of four answers were provided and the subjects were required to choose the answer that best fit their interpretation of the expression. Responses were noted as correct or incorrect and analysed according to accuracy of response.

#### 4.7.10 Statistical analysis

- **Quality analysis and Evaluation analysis**

A logistic regression analysis was used to evaluate the difference between the experimental and control groups per task for all features analysed. This form of analysis maximises the 'likelihood' that an event occurs, thus, it evaluates whether a person belongs to a group given his/her score. The different categories are weighted. These weights are calculated by a regression procedure and called coefficients, denoted as B values. The Wald statistic was applied in this study to evaluate the significance of the coefficient, that is explaining the contribution of a category towards differentiation between groups. On the basis of the scores of a subject corrected by the weights, an estimated probability is calculated. The procedure is

based on the rule that when the predicted value is larger than 0.5, then the prediction is positive. A logistic regression analysis was deemed appropriate for the present study considering the dichotomous nominal variable (experimental v/s control group) as well as its robust violations such as multivariate and equal variance-covariance matrices.

The Wald statistic is affected by large coefficients. Therefore, a second logistic regression analysis was carried out on any specific category within each analysis when it appeared that this category was contributing significantly towards the variants between the groups. That is when the B value was high and significant in the first regression analysis, a second analysis is carried out to evaluate the effectiveness of this particular category in differentiating between the groups. If the P value is less than .02, then the prediction is significant.

- **Quality analysis v/s Evaluation analysis**

Non-parametric correlations using Spearman's rho were undertaken so as to attempt to determine whether scores on one parameter of analysis influenced the score on the second parameter of analysis.

#### **4.8 Reliability measures**

In order to validate the findings, measures of reliability were obtained for the transcriptions, the scoring of the discourse analysis, the analysis of evaluation and the analysis of adaptation features. Inter-rater reliability determines the extent to which the different raters agreed that they viewed an event in the same manner. Hence, ensuring consistency in analysis across all narrative samples. A word-by-word percentage agreement procedure was employed based on the following formula (Cucchiarini 1995).

$\frac{\text{Number of agreements}}{\text{Number of agreements} + \text{Number of disagreements}} \times 100$
---

#### 4.8.1 Inter-rater reliability

Three raters including the researcher were involved in this study. The two other raters were selected according to the following criteria:

- All raters were required to be first language Creole-speaking Mauritians.
- They needed to be familiar with other languages used in Mauritius. Considering the variety of languages spoken on the island, any of these languages could be potentially employed by the subjects in their narratives. Therefore, the raters should be aware of any cultural differences that could arise.
- None of the raters were in the field of Speech and Language pathology. This is because there is limited speech therapists whose first language is Creole. In addition, discourse analysis primes natural conditions; moving away from the clinical setting. Hence, the researcher thought that it would be interesting to see how people other than speech therapists would rate aphasic speech. Professionals in the field tend to be aware of aphasic problems; thus shaping expectations of the patient's speech. This aspect could potentially affect the results of the study.

The raters were trained extensively in the field of analysis. Practice trials were instituted on video samples supported by scripts which were not part of the study. The researcher carried out all initial scoring followed by each rater independently. This procedure was adopted as discussion between raters could bring about biased results. After analysis, all results were correlated. In case of intensive disagreements, discussion between raters was encouraged.

#### 4.8.1.1 Transcription reliability

20% of each narrative sample was randomly selected and transcribed by each rater. Transcription percentage agreements were calculated by using word-by-word agreement procedure detailed in Section 4.8. Inter-rater percentage agreements for rater 1 (R1) versus rater 2 (R2), R1 versus rater 3 (R3) and finally R2 versus R3 are presented in Table 4.11.

*Table 4.11: Inter-rater transcription reliability*

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
<b>R1-R2</b>	99.12%	99.08%	100%	99.76%	99.38%	99.67%	99.48%	99.34%	98.14%	100%
<b>R1-R3</b>	98.14%	98.78%	98.61%	99.20%	97.09%	98.97%	99.46%	98.61%	98.07%	98.61%
<b>R2-R3</b>	99.02%	99.56%	98.61%	99.44%	97.74%	99.31%	99.47%	98.92%	97.71%	98.61%
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
<b>R1-R2</b>	96.24%	99.89%	98.22%	99.17%	99.29%	98.92%	99.76%	99.15%	99.10%	100%
<b>R1-R3</b>	96.22%	100%	95.44%	97.30%	99.00%	96.93%	99.55%	99.15%	99.44%	97.79%
<b>R2-R3</b>	99.51%	99.89%	96.98%	96.82%	99.71%	96.10%	99.33%	100%	98.82%	97.91%

The results indicated high inter-rater transcription reliability. Where notable discrepancies arose in the transcriptions, necessary changes were effected prior to further analysis.

#### 4.8.1.2 Propositional unit reliability

20% of each narrative sample was selected and the raters analysed the propositional units. Percentages of agreement across subjects were high as illustrated in Table 4.12:

Table 4.12: Inter-rater reliability for propositional units

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
<b>R1-R2</b>	100%	96.45%	100%	100%	100%	100%	100%	100%	100%	100%
<b>R1-R3</b>	100%	96.45%	100%	100%	100%	100%	100%	100%	100%	100%
<b>R2-R3</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
<b>R1-R2</b>	93.97%	97.05%	100%	100%	100%	100%	100%	100%	100%	100%
<b>R1-R3</b>	98.73%	100%	100%	100%	100%	97.85%	97.75%	96.45%	100%	100%
<b>R2-R3</b>	95.23%	97.05%	100%	100%	100%	97.85%	97.75%	96.45%	100%	100%

#### 4.8.1.3 Quality rating analysis reliability

The researcher carried out the initial scoring. In order to determine whether the methods of analysis were consistent across all narrative samples, two other Mauricians were trained as raters to analyse the data. They were then required to analyse these samples using the same methods adopted in the study. The analysis was performed in the presence of the researcher and discussion was entered into when disagreements occurred. Percentages of agreement across subjects were high as illustrated in Table 4.13.

Table 4.13 : Inter-rater reliability for quality analysis

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
<b>R1-R2</b>	100%	100%	100%	100%	97.45%	100%	100%	100%	100%	100%
<b>R1-R3</b>	96.35%	100%	100%	100%	100%	96.45%	100%	100%	98.75%	100%
<b>R2-R3</b>	100%	100%	100%	100%	100%	100%	100%	97.85%	97.05%	100%
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
<b>R1-R2</b>	100%	100%	100%	98.45%	100%	100%	100%	100%	100%	100%
<b>R1-R3</b>	100%	100%	100%	100%	100%	100%	100%	97.23%	100%	100%
<b>R2-R3</b>	100%	97.45%	100%	98.45%	100%	100%	98.65%	100%	100%	100%

#### 4.8.1.4 Analysis of evaluation reliability

20% of each narrative was randomly selected and analysed. Inter-rater agreement percentages are recorded in Table 4.14. The results indicate high reliability.

Table 4.14 : Inter-rater reliability of evaluation analysis

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
<b>R1-R2</b>	100%	100%	100%	100%	100%	100%	100%	87.50%	97.43%	98.65%
<b>R1-R3</b>	92.85%	100%	100%	100%	100%	100%	98.40%	84.40%	100%	98.60%
<b>R2-R3</b>	92.85%	100%	100%	100%	100%	100%	98.40%	96.90%	97.43%	97.30%
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
<b>R1-R2</b>	98.33%	96.05%	91.65%	89.00%	97.05%	100%	88.90%	100%	100%	93.33%
<b>R1-R3</b>	95.00%	94.10%	100%	96.15%	97.35%	100%	94.43%	100%	100%	97.77%
<b>R2-R3</b>	96.67%	89.15%	91.65%	92.85%	94.40%	100%	85.20%	100%	100%	91.10%

#### 4.8.1.5 Reliability of analysis of adaptation features

20% of each narrative was analysed and the results are given in Table 4.15. Once again, the results indicate high inter-rater reliability.

Table 4.15: Inter-rater reliability for adaptation features

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
<b>R1-R2</b>	100%	100%	100%	100%	100%	100%	93.75%	81.67%	100%	100%
<b>R1-R3</b>	100%	91.67%	100%	100%	97.44%	100%	92.16%	81.67%	100%	100%
<b>R2-R3</b>	100%	91.67%	100%	100%	97.44%	100%	97.78%	100%	100%	100%
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
<b>R1-R2</b>	100%	100%	91.67%	100%	91.67%	100%	100%	93.33%	100%	100%
<b>R1-R3</b>	100%	100%	91.67%	100%	86.67%	100%	100%	100%	88.89%	88.89%
<b>R2-R3</b>	100%	100%	100%	100%	91.67%	100%	100%	93.33%	88.89%	88.89%

Chapter 4 presented the methodology adopted in this study. In Chapter 5, the findings of the study are presented and discussed.

## **CHAPTER 5**

### **RESULTS & DISCUSSION**

This section includes the results and a discussion of the experimental and control subjects performance on the Ulatowska et al (1998) Discourse Test Battery. An attempt has been made to identify the differences and similarities of the subjects' performance within and across groups. Task effects are presented and discussed. In addition, the adaptation features of the participants are highlighted. Finally, the discourse characteristics of Mauritian Creole in relation to aphasia have been noted.

The results of the statistical analyses are presented and discussed. Logistic regression analyses attempted to classify whether the subjects were indeed supposed to be assigned to an experimental group or control group on the basis of their scores on the various categories. These analyses allowed tentative conclusions to be reached concerning the category that is likely to be affected with aphasia. Spearman's rho coefficient has been applied to detect any relationship between the different parameters of quality analysis and evaluation analysis. The results could potentially shed light on the interaction of these parameters employed to analyse discourse and their effect on communication.

A comparison between the statistical analysis and the qualitative analysis has been undertaken. It is noted however, that these results are based on a limited group of subjects and the results have to be viewed with caution. While the results can potentially suggest certain conclusions, large scale research is warranted to be able to validate the findings .

## 5.1 Length of Narrative, Propositional Analysis and Ratio of Length of Narrative to Propositional Units

The length of narratives, propositional analyses and their ratios were calculated for each subject. These are presented in Tables 5.1 and 5.2.

Table 5.1: Calculation of WC, PU and ratio for the experimental subjects

	TF		CA		AT		FS		PE	
	WC	PU	WC	PU	WC	PU	WC	PU	WC	PU
<b>S1</b>	50	11	45	10	59	14	94	19	166	31
<b>Ratio</b>	4.55		4.50		4.21		4.95		5.36	
<b>S2</b>	65	10	121	23	76	13	96	21	328	57
<b>Ratio</b>	6.50		5.26		5.85		4.57		5.75	
<b>S3</b>	20	5	12	3	32	7	47	10	81	18
<b>Ratio</b>	4.00		4.00		4.57		4.70		4.50	
<b>S4</b>	25	6	32	5	64	9	62	14	27	4
<b>Ratio</b>	4.17		6.40		7.11		4.43		6.75	
<b>S5</b>	33	6	39	7	60	10	42	10	168	23
<b>Ratio</b>	5.50		5.57		6.00		4.20		7.30	
<b>S6</b>	30	5	50	7	56	8	98	19	172	27
<b>Ratio</b>	6.00		7.14		7.00		5.16		6.37	
<b>S7</b>	39	4	21	4	33	7	117	13	156	25
<b>Ratio</b>	9.75		5.25		4.71		9.00		6.24	
<b>S8</b>	39	5	33	6	40	7	88	12	92	15
<b>Ratio</b>	7.80		5.50		5.71		7.33		6.13	
<b>S9</b>	65	8	82	13	70	14	164	31	130	20
<b>Ratio</b>	8.13		6.31		5.00		5.29		6.50	
<b>S10</b>	23	3	33	4	93	15	70	15	197	36
<b>Ratio</b>	7.67		8.25		6.20		4.67		5.47	

Table 5.2: Calculation of WC, PU and ratio for the control subjects

	TF		CA		AT		FS		PE	
	WC	PU	WC	PU	WC	PU	WC	PU	WC	PU
<b>C1</b>	25	3	48	6	44	9	137	26	187	35
<b>Ratio</b>	8.33		8.00		4.89		5.27		5.34	
<b>C2</b>	25	4	22	5	104	16	73	11	182	34
<b>Ratio</b>	6.25		4.40		6.50		6.64		5.35	
<b>C3</b>	82	15	94	12	167	27	129	24	209	32
<b>Ratio</b>	5.47		7.83		6.19		5.38		6.53	
<b>C4</b>	31	6	29	6	34	11	88	14	87	11
<b>Ratio</b>	5.17		4.83		3.09		6.29		7.91	
<b>C5</b>	22	5	31	7	98	17	68	14	165	34
<b>Ratio</b>	4.40		4.43		5.77		4.86		4.85	
<b>C6</b>	76	13	37	5	146	26	134	23	320	51
<b>Ratio</b>	5.85		7.40		5.62		5.83		6.28	
<b>C7</b>	31	8	157	22	116	22	157	23	335	63
<b>Ratio</b>	3.88		7.14		5.27		6.83		5.32	
<b>C8</b>	45	8	88	13	90	16	182	27	111	21
<b>Ratio</b>	5.63		6.79		5.63		6.74		5.29	
<b>C9</b>	19	4	39	6	71	15	89	18	76	15
<b>Ratio</b>	4.75		6.50		4.73		4.94		5.07	
<b>C10</b>	36	6	23	4	98	19	101	16	83	14
<b>Ratio</b>	6.00		5.75		5.16		6.31		5.93	

Key:

WC: Word count (length of narratives)

PU: Propositional Units

### 5.1.1 Length of narrative, i.e. word count (WC)

The word count included meaningful words as well as empty fillers, repetition for no effect and false starts. As can be seen from Tables 5.1 and 5.2, the control subjects generally produced lengthier narratives than the experimental subjects. This supports findings by Ulatowska et al (1983; 1998; 2000), Christiansen (1995), Nicholas and Brookshire (1995), Von Bentheim (2000) and Venter (2000) who concluded that their control subjects elicited longer narratives compared to their experimental subjects.

While the majority of the experimental group produced shorter narratives than the control group, S1, S2 and S9 elicited stories that were similar in length or even lengthier than their matched controls. These individuals were categorised as persons with mild aphasia according to their AQ scores on the WAB. Data from Table 5.2 indicates that within the control group, C3, C6 and C7 produced the lengthiest narratives overall.

The fact that experimental subjects produced shorter narratives than the control subjects was especially apparent on the sequence picture and fable tasks. The complexity of these tasks could possibly explain these results. Ulatowska et al (1981) also found that the mild to moderate subjects with aphasia produced shorter narratives on retell. In addition, both groups elicited the lengthiest narratives on the 'Personal Experience' task.

The single pictures' tasks elicited the shortest narratives in both groups. The individuals with aphasia seem to do as well as or better than the control subjects on single picture narratives. This is possibly because the pictures provide the subjects with a reference structure which they can refer to, thus decreasing load of working memory. Furthermore, Holland (1975 cited in Glosser et al 1988) argued that picture tasks hinder the elicitation of different linguistic behaviours as they restrict the communication to the picture. The subject is thus bound to the stimuli.

### **5.1.2 Propositional analysis**

Propositional analysis is an indication of the number of idea units employed by the subjects to generate their narratives. Filler items, which are devoid of substantive meaning in verbalisations (Glosser et al 1988), and repetitions, with no communicative intent were excluded from this analysis. As can be seen in Tables 5.1 and 5.2, the experimental subjects presented with a reduced number of idea units in their narrative production. This finding is similar to results reported in studies conducted by Ulatowska et al (1983; 1998), Christiansen (1995), Nicholas and Brookshire (1995), Von Bentheim (2000) and Venter (2000) who all found that the control subjects used more idea units overall than the experimental subjects.

While the control subjects seem to use more idea units overall, this trend was especially apparent for the 'Apple Theft' narrative task followed to a lesser extent by the 'Fable' and the 'Personal Experience' narratives. The 'Apple Theft' task presents as a more complex task compared to the 'Single Pictures' stimuli whereby no substantial difference was noted between the groups. The 'Personal experience' narrative yielded the highest number of propositional units in both groups.

### **5.1.3 Ratio of length of narratives to propositional units (WC:PU)**

An analysis of information content includes the ratio of WC:PU. As can be seen from Tables 5.1 and 5.2, the experimental group often produced higher ratios than the control group. This result suggests that the individuals with aphasia employed more words to express their ideas. This supports conclusions reached by Busch, Brookshire and Nicholas (1988) as well as Von Bentheim (2000) who noted that their experimental subjects employed more words to communicate a given amount of information than non-aphasic speakers. This aspect needs to be considered in conjunction with the incidence of false starts, empty fillers and repetitions for no effect as the word count included these instances and the experimental subjects' narratives were characterised by marked use of these features.

Although the experimental group showed a tendency to produce higher ratios (i.e. an indication of high WC and low PU) on most of the tasks, this trend was not evident on the 'Fable'. In fact, a marked difference is noticed on this task whereby the control group elicited the highest ratios. In the 'Fable' task, the participants are required to recall information from a written and auditory stimulus. The results indicate that there is a reduction in the information recalled among the experimental subjects leading to a decrease in word count as well as propositional units. The fable thus appears to be useful in differentiating between the experimental and control subjects.

### **5.1.4 Some conclusions on length of narrative, propositional analysis and ratio**

The experimental subjects appear to employ a greater number of words to convey their information on most tasks. However, on the 'Fable', they used fewer words together with a marked reduction in information.

Halliday and Hasan (1976:1 cited in Armstrong 1991:40) view discourse as 'any passage spoken and written of whatever length that does form a unified whole'. Considering this definition, the length of narratives, propositional units and their ratio are irrelevant as indices in the assessment and management of aphasia. Functional communication focuses on how the patient is getting his/her message across and in that instance, completeness of information is more important than quantity of

information (Armstrong 1991). Calculation of PU, WC and ratio relates to a numerical value which does not indicate the quality of information conveyed. In fact, Yorkston and Beukelman (1980) and Shadden (1997) reported that communication rate is probably a more critical variable than the amount of information.

However, quantifying discourse complements the analysis of lexical retrieval problems encountered by the subjects in their discourse production (Larfeuil & Le Dorze 1997). Moreover, results from preliminary studies conducted by Menn, Ramsberger & Helm-Estabrooks (1994), Nicholas and Brookshire (1993) indicated that indices of communication efficiency (i.e. content per units of time) progressed positively over time (Larfeuil & Le Dorze 1997). Therefore, while different researchers have opposed these analyses, some have lent their support. These analyses can be potentially employed to monitor the performance of the subjects over time in therapy.

## **5.2 Quality Analysis**

As mentioned previously, an analysis of the quality of the subjects' narratives was undertaken using a scale developed by Ulatowska et al (1998). As can be seen from Tables 5.3 and 5.4, overall the control subjects produced a higher quality rating compared to the experimental subjects.

Table 5.3: Quality rating analysis of the experimental group

Task	Features	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
The fall	Global structure	4	3	2	1	2	3	2	2	3	2
	Temporal sequence	3	2	3	1	2	2	2	1	2	2
	Reference	3	3	1	3	2	2	1	2	3	3
	Suspense	2	0	0	0	0	1	0	0	1	0
	Coherence	3	2	2	1	2	3	2	1	2	2
	Clarity	2	1	2	1	2	2	1	1	2	2
	<b>Total</b>	<b>17</b>	<b>11</b>	<b>10</b>	<b>7</b>	<b>10</b>	<b>13</b>	<b>8</b>	<b>7</b>	<b>13</b>	<b>11</b>
	Main Idea	GA	GI	CI	CA	CI	GA	CI	CI	CI	CA
Crocodile attack	Global structure	4	3	2	2	2	3	2	2	3	2
	Temporal sequence	3	1	2	2	2	3	1	2	2	1
	Reference	3	2	1	2	1	2	2	1	2	2
	Suspense	2	1	0	0	1	1	1	1	1	0
	Coherence	3	1	2	2	2	3	1	1	2	2
	Clarity	2	1	2	2	2	2	1	1	2	2
	<b>Total</b>	<b>17</b>	<b>9</b>	<b>9</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>8</b>	<b>8</b>	<b>12</b>	<b>9</b>
	Main Idea	GA	GA	CA	GA	CA	GA	GI	CI	CI	CI
Apple theft	Global structure	2	2	2	1	1	3	2	2	3	2
	Temporal sequence	2	2	2	1	1	2	2	2	2	1
	Reference	3	3	0	2	1	2	1	1	3	1
	Suspense	1	1	0	0	0	1	0	0	1	0
	Coherence	1	1	2	1	1	2	1	1	3	1
	Clarity	2	1	2	1	2	2	1	0	2	2
	<b>Total</b>	<b>11</b>	<b>10</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>12</b>	<b>7</b>	<b>6</b>	<b>14</b>	<b>7</b>
	Main Idea	CI	CA	GA	GI	CI	GA	CI	CI	CI	CA
Lesson	GA	GA	GA	CI	GA	CI	CI	CI	GA	GI	
Farmer & sons	Completeness	3	3	1	1	1	3	1	1	3	2
	Temporal sequence	3	3	2	1	1	1	1	1	1	1
	Reference	2	3	1	1	1	2	2	1	3	2
	Accuracy	3	2	1	1	1	1	1	0	3	1
	Coherence	3	2	1	1	1	2	1	1	2	2
	Clarity	2	2	2	2	2	2	1	1	2	1
	<b>Total</b>	<b>16</b>	<b>15</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>11</b>	<b>7</b>	<b>5</b>	<b>14</b>	<b>9</b>
	Main Idea	CA	GI	CI	CI	CI	CA	CI	CI	GA	CI
Lesson	GA	GI	GI	CI	CI	GI	CI	CI	GA	GI	
Personal experience	Global structure	4	4	4	1	1	3	2	2	3	2
	Temporal sequence	3	2	3	1	1	1	2	2	2	2
	Reference	3	2	3	2	2	3	2	2	2	2
	Suspense	1	2	0	1	0	0	0	0	2	1
	Coherence	3	2	3	1	1	2	1	1	2	2
	Clarity	2	1	2	2	2	2	1	1	2	2
	<b>Total</b>	<b>16</b>	<b>13</b>	<b>15</b>	<b>8</b>	<b>7</b>	<b>11</b>	<b>8</b>	<b>8</b>	<b>13</b>	<b>11</b>

Table 5.4: Quality rating analysis of the control group

Task	Features	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
<b>The fall</b>	Global structure	2	3	4	3	2	4	2	4	4	4
	Temporal sequence	2	3	3	3	3	3	2	3	3	3
	Reference	2	1	3	2	2	3	3	3	2	3
	Suspense	0	1	1	1	1	2	1	1	1	0
	Coherence	2	2	3	3	2	3	2	3	3	3
	Clarity	1	2	2	2	1	2	2	2	2	2
	<b>Total</b>	<b>9</b>	<b>12</b>	<b>16</b>	<b>14</b>	<b>11</b>	<b>17</b>	<b>12</b>	<b>16</b>	<b>15</b>	<b>15</b>
Main Idea	CA	CI	GA	CA	CI	GA	GA	CI	CA	CA	
<b>Crocodile attack</b>	Global structure	2	3	4	2	3	3	4	4	4	2
	Temporal sequence	2	3	3	2	3	3	2	3	3	3
	Reference	2	1	2	2	2	2	2	3	2	1
	Suspense	0	1	1	0	1	2	1	1	1	1
	Coherence	2	2	3	2	2	3	3	3	3	2
	Clarity	1	2	2	2	2	2	2	2	2	2
	<b>Total</b>	<b>9</b>	<b>12</b>	<b>15</b>	<b>10</b>	<b>13</b>	<b>15</b>	<b>14</b>	<b>16</b>	<b>15</b>	<b>11</b>
Main Idea	CA	CA	GA	CA	CI	GA	GA	CA	CA	CI	
<b>Apple theft</b>	Global structure	2	3	4	3	2	4	3	4	4	4
	Temporal sequence	1	2	2	2	2	3	2	3	3	3
	Reference	2	1	3	2	2	3	2	3	3	3
	Suspense	0	1	2	0	1	2	1	1	3	2
	Coherence	1	3	3	2	2	3	2	3	3	3
	Clarity	1	2	2	2	2	2	2	2	2	2
	<b>Total</b>	<b>7</b>	<b>12</b>	<b>16</b>	<b>11</b>	<b>11</b>	<b>17</b>	<b>12</b>	<b>16</b>	<b>17</b>	<b>17</b>
Main Idea	CA	CI	GA	CA	CA	CA	GA	CA	CI	CA	
Lesson	GA	GA	GA	GA	GA	GA	CA	GA	GA	GA	
<b>Farmer &amp; sons</b>	Completeness	4	3	4	4	1	4	4	3	4	3
	Temporal sequence	2	3	3	3	1	3	3	3	3	3
	Reference	3	3	3	3	1	3	3	3	3	3
	Accuracy	2	2	3	3	1	3	2	3	3	3
	Coherence	3	3	3	3	1	3	3	3	3	3
	Clarity	2	2	2	2	2	2	2	2	2	2
	<b>Total</b>	<b>16</b>	<b>16</b>	<b>18</b>	<b>18</b>	<b>7</b>	<b>18</b>	<b>17</b>	<b>17</b>	<b>18</b>	<b>17</b>
Main Idea	GA	CI	CA	CI	CI	GA	GI	GA	GA	CI	
Lesson	GA	GI	GA	GA	GI	GA	GA	GA	GA	GA	
<b>Personal experience</b>	Global structure	4	4	4	3	3	4	3	4	3	3
	Temporal sequence	2	2	3	2	3	3	3	3	2	2
	Reference	2	3	3	3	2	3	3	2	2	2
	Suspense	2	3	3	1	1	3	1	2	2	1
	Coherence	2	2	3	2	2	3	2	3	2	3
	Clarity	1	2	2	1	2	2	2	2	2	2
	<b>Total</b>	<b>13</b>	<b>16</b>	<b>18</b>	<b>12</b>	<b>13</b>	<b>18</b>	<b>14</b>	<b>16</b>	<b>13</b>	<b>13</b>

Within the experimental group, S4, S5, S7 and S8 yielded the lowest scores. The performance of S4 and S5 correlated well with their WAB score whereby they were

classified as individuals with moderate aphasia. S7 and S8 also received lower AQ ratings but higher than S4 and S5. This would indicate a possible relationship between performance of the experimental subjects on quality rating analyses and their AQ scores on the WAB. Therefore, the measurement of linguistic functioning as performed on the standardised test has potential in defining the subjects' ability in producing and subsequently organising language in narratives (Ulatowska et al 1983; Crary & Rothi 1989).

A narrative text includes essential elements contributing to the narrative superstructure. The setting, complicating action and resolution are important while the abstract and coda are optional features (Honda et al 1999). These form the global structure of a narrative. Other elements contributing to the preservation of a story are temporal sequence, reference, suspense, coherence and clarity. Additionally, for the fable, completeness and accuracy of discourse are evaluated (Ulatowska et al 1983, 1998; Honda et al 1999). Each of these features is now considered.

Note: Statistical analyses as explained earlier in Chapter 4, Section 4.7.10, were carried out for quality analysis. Appendix E includes the tables for the first regression analyses done on the data. Categories which were found to be significant were further analysed through a second variable analysis and the results are shown in this chapter.

### **5.2.1 Global structure**

The control subjects, in general, received higher ratings on global structure compared to the experimental subjects, which support similar findings reported by Von Bentheim (2000) and Venter (2000). However, an analysis of the performance of the experimental subjects reveals the relative preservation of the superstructure. Almost all the narratives included the features contributing to the superstructure. Optional elements (abstract and coda) are even displayed in certain stories. As noted by Ulatowska et al (1981, 1983), the mildly impaired individuals with aphasia produce well-structured narratives. Furthermore, studies by Ulatowska, Allard, Reyes, Ford and Chapman (1992) as well as Caplan (1996) concluded that despite deficits at the single and sentence levels, persons with aphasia generally produce adequate discourse structures across tasks.

As is illustrated in Tables 5.3 and 5.4, S4 and S5 consistently received low ratings on global structure across all tasks. S4 was mostly unable to provide the setting, the resolution and the coda in the narratives. S5's stories mainly lack a resolution. Even with verbal prompts from the researcher, they were unable to go beyond the complicating action stage. It appears that they were bounded by the visual stimuli and unable to extrapolate their thoughts beyond what is concretely shown in the 'Single Pictures' stimuli and 'Apple Theft' task.

Within the control group, C1 and C5 received low scores on the stimuli involving pictures. It is proposed that their performance may be related to their lower educational level than the other subjects. Mackenzie (2000b) reported that picture description involves a more formal test situation than a conversation on a more familiar topic. Therefore, individuals with limited formal education 'may find themselves unconfident and uncertain as to the amount and type of information expected and thus more reticent than those who are well educated' (Mackenzie 2000b: 281).

The observation that global structure appeared to be affected by aphasia on the 'Apple Theft' task confers with statistical findings. Considering the results obtained for global structure from Table I (see appendix E), a second logistic regression analysis was applied to global structure and the results are shown in Table 5.5.

*Table 5.5: Results of second regression analysis on global structure for the 'Apple Theft'*

Variable	B	Wald	Significance
Global structure	2.1949	5.7612	.0164

From Table 5.5, a significant difference was found between the two groups on global structure ( $P = .0164$ ) and regression analysis effectively classified 80% of the subjects correctly on the basis of their scores on global structure alone. That is, eight of the experimental subjects were found to correctly belong to the experimental group and two only obtained scores that were almost similar to those of the control group and vice versa. Contrary to qualitative findings, no significant difference was noted on

their performance on the 'Single Pictures' stimuli as confirmed by results shown in Table II in Appendix E.

The meaning of a narrative text is relayed through the propositional content (Ulatowska et al 1983). An analysis of the propositional content of the narratives showed that the experimental subjects tended to include the main elements of the stories and omit details. The control subjects appeared to include details in their narratives. Several authors have agreed that the subjects suffering from aphasia processed narratives by producing the critical information but omitting less important details (Berko-Gleason, Goodglass, Obler, Green, Hyde & Weintraub 1980; Ulatowska et al 1983; Brookshire & Nicholas 1984; Chapman & Ulatowska 1984; Honda et al 1999).

Educational level appears to be a confounding variable considering the performance of C1 and C5. However, in the experimental group, S4 who reached a high educational level of Grade 12 scored a low rating on global structure. Although one might have expected a higher global structure rating for S4, his more acute degree of aphasia may have affected his ability to preserve the global structure of his narratives.

### **5.2.2 Temporal sequence**

Temporal sequence evaluates the chronology of events of narratives (Ulatowska et al 1998). As can be seen from Tables 5.3 and 5.4, the control subjects produced higher scores compared to the experimental subjects on this feature. Within the experimental group, S4 and S5 received the lowest scores. S3 and S10 showed variable performance on temporal sequencing ability. No such variation was evident among the control subjects

The experimental subjects showed the ability to abide by the chronology of events as led by the sequence of events in the 'Apple Theft' narrative. However, their temporal sequencing ability appeared to be disrupted on the 'Single Pictures' stimuli. This result supports findings by Von Bentheim (2000) who reached similar conclusions. The description of static material appears to disrupt the chronological organisation of events for the experimental subjects. It is possible that they are unable to organise the

episodes as the pictures do not present a chain of events as is provided in the 'Apple Theft' narrative.

Statistical findings support the observation that temporal sequence is affected with aphasia on the 'Single Pictures' stimuli. As seen in Table II from appendix E, temporal sequence was the only category whereby the significance value did not exceed .5 with a relatively high B value. Therefore, a second logistic regression analysis was applied and the results are shown in Table 5.6.

*Table 5.6: Results of second logistic regression analyses on temporal sequence for the 'Single Pictures' stimuli*

Variable	Task	B Value	Wald	Significance
Temporal sequence	The Fall	2.5771	5.6998	.0170
	Crocodile Attack	2.0730	4.8567	.0275

From Table 5.6, significant differences were obtained on temporal sequence on both 'The Fall' ( $P = .0170$ ) and 'Crocodile Attack' ( $P = .0275$ ). The model correctly classified 80% of the subjects to their groups considering their scores on temporal sequence alone on 'The Fall' and 75% on 'Crocodile Attack'.

This difficulty preserving temporal sequence was also apparent on the 'Fable' task and statistical analysis again supports this observation as illustrated in Table III in Appendix E. A second logistic regression analysis revealed a significant difference ( $P = .0115$ ) between the groups on this feature on the 'Fable' task. The results are shown in Table 5.7. In addition, the model correctly classified 80% of the subjects according to their scores on temporal sequence alone.

*Table 5.7: Results of second logistic regression analysis on temporal sequence for the 'Fable'*

Variable	B	Wald	Significance
Temporal sequence	1.6523	6.3931	.0115

### **5.2.5 Coherence**

Coherence investigates the complex relationship among cognition, organisation of human knowledge and language. This feature of discourse is a general cognitive concept relating to the well-formedness of a text (Ulatowska et al 1981). Coherence was rated in terms of the continuity of ideas expressed by the subjects.

Findings illustrated in Tables 5.3 and 5.4 indicate that the control subjects scored higher ratings compared to the experimental subjects. An analysis of the experimental subjects' performance reveals that S4 and S5 received the lowest rating across tasks with the exception of the 'Single Picture' stimuli whereby a slight improvement was noted. These subjects have moderate aphasia which could disrupt verbal output as a result of impaired linguistic ability. S7 and S8 consistently scored low ratings on coherence across tasks. These subjects' narratives were characterised by marked use of repetition for no effect as well as phonemic paraphasias. While it can be argued that these aspects are likely to affect the clarity of the texts, they have an adverse effect on coherence because they disrupt the 'flow' of the narrative leading to a certain degree of incoherence.

Within the control group, C1, C2, C5, C7 and C10 were rated slightly lower than the other control subjects on the 'Single Pictures', 'Apple Theft' and 'Personal Experience' tasks. Their performance is thought to be affected by their educational level. These participants achieved a lower level of formal education compared to the other control subjects. The impact of education on picture description has been highlighted by Mackenzie (2000b) who argued that individuals, with a lower educational input, produced shorter and less complete descriptions. Therefore, a relationship between educational status and the ability to produce a coherent text may be found. No such effect was evident in the experimental group. The degree of aphasia might have masked the effect of education on the linguistic production of these subjects.

The 'Apple Theft' and 'Fable' narratives produced the most differences between the experimental and control subjects which confers with statistical findings. See Tables

II and III in Appendix E. Table 5.10 illustrates the results of the second regression analysis applied to the data.

*Table 5.10: Results of second regression analysis on coherence for 'Apple Theft' and 'Fable'*

Variable	Task	B Value	Wald	Significance
Coherence	Apple Theft	1.8857	6.0647	.0138
	Fable	2.2458	6.2072	.0127

In the 'Apple Theft' task, a significant difference on coherence ( $P = .0138$ ) was obtained and the model correctly classified 80% of the subjects. An even higher classification of 90% was achieved on the 'Fable' with a  $P$  value of .0127. This is in contradiction to results obtained from Von Bentheim (2000) study, whereby statistically significant differences were recorded on the 'Single Picture' stimulus (Easter Morning) and the 'Personal Experience' narrative. Furthermore, Glosser and Desler (1990), found no significant difference between the groups on coherence ratings. The difference in results between the studies could possibly be due to the different types of stimuli employed to elicit narratives. In this present study, the 'Single Pictures' were substituted from the Ulatowska et al (1998) battery. Von Bentheim's study employed the same pictures from the Ulatowska et al (1998) battery while Glosser and Desler (1990) used an interview situation. Therefore, the type of elicitation technique needs to be carefully considered as it can potentially influence the performance of the subjects on the aspect of coherence.

It is interesting to consider the impact of emotion on coherence. Themes such as 'stroke experience' have a high degree of emotion involved. On the 'Personal experience' narrative, S4, S5, S7 and S8 all recounted their 'stroke experience' and were allocated the lowest rating compared to the other members of the group. It is proposed that the emotional content of such a topic could cause disruptions in the verbal output of the subjects leading to reduced rating on coherence. Glosser et al (1988) found that topic or content of communication have a strong effect on verbal complexity and verbal disruptions. Bloom, Borod, Obler and Gerstman (1993) also

noted that previous studies on persons with aphasia might have underestimated the contribution of emotional factors that can emerge in interpersonal communication.

The connection of ideas across discourse, that is coherence, is achieved through adequate use of cohesive devices (Lock & Armstrong 1997). Cohesion is defined as ‘the set of linguistic resources that every language has for linking one part of a text to another’ (Halliday 1985: 48 cited in Armstrong 1991:40). Inappropriate or decreased use of cohesive devices may lead to incoherence (Ripich, Terrell & Spinelli 1983; Lemme et al 1984; Newman, Lovett & Dennis 1986 cited in Lock & Armstrong 1997).

Armstrong (1991) noted three main categories of cohesive devices: reference, substitution and ellipsis. The use of conjunction forms an important part in ensuring the cohesiveness of a text. However, while conjunction links complete clauses, the three types mentioned above usually link parts of clauses with parts of other clauses (Armstrong 1991).

To illustrate the use of cohesive devices, excerpts from two narratives have been included as shown below. Narrative 1 and Narrative 2 are examples from ‘Apple Theft’ stories from subjects S8 and C8 respectively. Correct use of cohesive devices are especially pertinent to sequence picture narratives as the subjects have to link the actions happening in each picture in the correct temporal order to achieve a coherent text. It is also noted that this task produced a marked difference between groups on coherence.

#### Narrative 1 (S8)

‘San la ... 2 vole r... in rente pu coquin. Apre sa in ... in rente 1 tigit endan ...  
troisieme ... li ... lip li si li coquin, li fer pu sorti kumsa ... ler lerla quatrieme. 1  
garson vini, guete, ban la in tini ale’

*‘This one ... two robbers ... went in to steal. Then went a little bit inside ... Thirdly,  
... he ... h he ss he steal. He made to go out like this ... Th then fourthly, a boy came,  
saw, they had all gone ( )’*

Narrative 2 (C8)

‘Deux gamins tuzur ... in passé kot 1 verger, 1 la cour pommier la. Zot trouve 1 quantite pomme. Alor in alle, in essaye al coquin inpe. Tuzur avec l'intention coquin, lin pren 1 sac lin vini. Lin ressi traverse dan fence et monte lor pie’

*‘Two guys again ... were walking past an orchard, an apple yard there. They saw a lot of apples. So went, tried to steal some. Still with the intention of stealing, he went to get a bag. He came back. He managed to go through a fence and climbed the tree ( )’*

The use of the same chain of events is evident across Narrative 1 and the ideas are not linked to each other, giving an impression of discontinuity. However, in Narrative 2, C8 employed conjunctions, i.e. cohesive devices, (so, still, and). Moreover, the use of synonyms (orchard, apple yard), ellipsis (saw a lot of apples ... tried to steal some) and referencing (two guys, they) is noted. The examples of these two discourse texts provide support to Armstrong's (1991) suggestions. Armstrong (1991) noted that the chain of events in a person with aphasia's narrative is made up of the same items, with a more restricted range of lexical relationships between them (e.g. few synonyms, superordinates). Also, the ideas tend to be reiterative in nature, that is repetitive (Armstrong 1991).

Adequate use of cohesive devices contributes to the build-up of a coherent text. This is an important feature that should be given due consideration in therapy as discontinuity in the flow of ideas hinders communicative efficiency of the experimental subjects. Reduced use of cohesive ties in the aphasic population has been previously documented in the literature (Ulatowska, Macaluso-Haynes & North 1980; Ulatowska et al 1981, 1983; Lemme, Hedberg & Battenberg 1980 cited in Armstrong 1991). Reflecting upon the narratives of the experimental subjects, although cohesive ties are reduced, there is no evidence of inappropriate use of these devices. Hence, perhaps the reduced use of cohesive devices contributed towards a decrease in the well-formedness of the discourse text which in turn affected the coherence ratings in the experimental subjects' narratives.

### **5.2.6 Clarity**

This involves an evaluation of the clarity of language production of the participants (Ulatowska et al 1998). As can be seen in Tables 5.3 and 5.4, the control subjects only obtained slightly higher ratings than the experimental subjects. The logistic regression model supports this observation as no significant differences were found. These findings are contrary to those of the following authors. Ulatowska et al (1981; 1983), Von Benthem (2000) and Venter (2000) reported that the control subjects fared better than the experimental subjects on clarity and Von Benthem (2000) further noted a statistical difference between the groups.

The difference in results could be attributed to the rating scale adopted for clarity. The raters argued that the two-point scale was inadequate at providing sufficient differentiation between the two groups. The criteria for the giving of points to the experimental group could not be applied to the control group. A three-point scale for clarity as employed in Ulatowska et al (1981)'s study might be considered: 1 – not at all clear, 2 – not completely clear and 3 – completely clear (Ulatowska et al 1981: 352). This scale could potentially address the problems experienced in the present study. However, to critically substantiate this suggestion, future larger scale research is necessary.

An individual analysis of the experimental group reveals that S7 and S8 consistently received lower ratings for clarity than the other experimental subjects across all tasks. Their narratives included a substantial degree of aphasic adaptation features, pauses, empty fillers, repetitions for no emphasis and phonemic paraphasias. Ulatowska et al (1981) posited that clarity of language might be dependent upon the use of devices producing linguistic cohesion. Therefore, it is possible that reduced use of proper cohesive devices and overuse of aphasic adaptation features caused a disruption in the flow of discourse thus affecting not only coherence but also clarity. No such variation was apparent among the control subjects.

### 5.2.7 Completeness and accuracy

The 'Fable' task includes an analysis of the completeness and accuracy of the narrative. Completeness refers to the inclusion of all the critical story elements while accuracy refers to the correctness of the information recalled (Ulatowska et al 1998). As is illustrated in Tables 5.3 and 5.4, the experimental subjects performed poorer in comparison to the control subjects. Similar findings were reported by Von Benthheim (2000).

The above findings confer with statistical findings whereby significant differences were obtained on completeness and accuracy. See Table III in Appendix E. Table 5.11 shows the results for completeness and accuracy on the second regression analysis.

*Table 5.11: Results of second regression analysis for completeness and accuracy for the 'Fable'*

Task	Variable	B Value	Wald	Significance
Fable	Completeness	1.4403	5.2949	.0214
	Accuracy	1.4313	5.2109	.0224

An analysis involving the category 'completeness' only classified 75% of the subjects ( $P = .0214$ ). The category 'accuracy' yielded a P value of .0224 and a classification result of 80%.

In the experimental group, S3, S4, S5, S7 and S8 scored the lowest rating on completeness. On accuracy, S6 and S10 together with the above-mentioned participants received low scores of one. With the exception of S3, all subjects had lower WAB scores and lower educational status.

Story telling is frequently used to test recall of information from spoken discourse. The performance of the subjects on the 'Fable' task calls for important clinical speculation. This task involves complex interaction of linguistic and cognitive abilities which seems to be problematic for individuals with aphasia. Story retell

brings about a different approach to narrative discourse. Instead of generating their own story, the subjects have to retain the story elements, place them in correct temporal order, retrieve them from memory and reformulate them linguistically (Doyle et al 1998).

- **Completeness**

An analysis of the experimental group story retells of the 'Fable' showed that the subjects seemed to recall the most important elements but failed to include details. This suggests that the recall of information is dependent upon the importance of the information. A reduction in the number of critical elements is evident across subjects leading to low ratings on completeness. Ernest-Baron, Brookshire & Nicholas (1987) reported similar findings while Ulatowska et al (1981) found the stories to be similar to, but shorter and simpler than control subjects.

Amongst the control group, C5 was the only participant who received a low rating. This is due to the fact that he provided an analysis of the 'Fable' instead of recalling it. All the control subjects provided lessons for the 'Fable' task. They successfully drew out the central meaning of the text, deriving its metaphorical interpretation. Of particular interest, six of the experimental subjects, with the exception of S3, S4, S7 and S8, provided correct lessons at the end of their stories. Ulatowska et al (2001) noted that the derivation of this metaphorical interpretation is based on the interaction of cognitive and linguistic abilities.

- **Accuracy**

The experimental subjects' narratives were characterised by low scores with the exception of S1, S2 and S9. All the control subjects except C5 received uniformly high ratings. Reflecting on the inaccurate information provided by the subjects with aphasia, it is observed that difficulty recalling accurate information is offset through the inclusion of ideas based on real world or experience. All the thematic units introduced were not bizarre in nature but inaccurate as they were not presented in the context of the fable employed in the study. The control subjects, on the other hand, produced accurate details throughout their stories. In this study, when they appeared

to forget information, they were inclined to omit the details completely rather than improvising new ideas not included in the 'Fable'.

### 5.2.8 Main idea & lesson

The main idea and lesson were rated depending on appropriateness and type of generalisation of the responses (Ulatowska et al 1998). The responses are tabulated in Tables 5.3 and 5.4.

*From Table 5.3: Experimental subjects*

Task	Features	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
The Fall	Main Idea	GA	GI	CI	CA	CI	GA	CI	CI	CI	CA
Crocodile Attack	Main Idea	GA	GA	CA	GA	CA	GA	GI	CI	CI	CI
Apple Theft	Main Idea	CI	CA	GA	GI	CI	CA	CI	CI	CI	GA
	Lesson	GA	GA	GA	CI	CA	CI	CI	CI	GA	GI
Farmer & Sons	Main Idea	CA	GI	CI	CI	CI	GA	CI	CI	GA	CI
	Lesson	GA	GI	GI	CI	CI	GI	CI	CI	GA	GI

*From Table 5.4: Control subjects*

Task	Features	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
The Fall	Main Idea	CA	CI	GA	CA	CI	GA	GA	CI	CA	CA
Crocodile Attack	Main Idea	CA	CA	GA	CA	CI	GA	CA	CA	CA	CI
Apple Theft	Main Idea	CA	CI	GA	CA	CA	CA	GA	CA	CI	CA
	Lesson	GA	GA	GA	GA	GA	GA	CA	GA	GA	GA
Farmer & Sons	Main Idea	GA	CI	CA	CI	CI	GA	GI	GA	GA	CI
	Lesson	GA	GI	GA	GA	GI	GA	GA	GA	GA	GA

- **Main idea**

Differences between groups are evident. On the 'Single Pictures' and Apple Theft' stimuli, most of the control subjects provided concrete and appropriate responses. The experimental subjects' responses were mostly concrete and inappropriate (The Fall, Crocodile Attack and Apple Theft) as well as general and appropriate (Crocodile

Attack). On the 'Fable', however, a distinct change is noted. The control subjects provided mainly concrete inappropriate or general appropriate responses while the experimental subjects mostly provided concrete inappropriate ones. These findings differ from those of Von Bentheim (2000) and Venter (2000). Von Bentheim (2000) reported no obvious differences between the groups while Venter (2000) noted that in general, the experimental subjects produced concrete and appropriate responses.

Within the experimental group, S3, S4, S5, S7, S8 and S9 mostly provided inappropriate and concrete responses. In the control group, C2, C5 and C10 were noted to elicit a higher percentage of inappropriate responses. Variation within the groups makes it problematic to establish any effect, if any, of AQ score, educational level or age in the provision of main ideas.

Speakers establish the main points in discourse by selectively highlighting some information by means of repetition and elaboration, and by establishing referential and causal connections between units of information (Kintsch & Van Dijk 1978; Schank & Abelson 1977; Van Dijk & Kintsch 1983 cited in Nicholas & Brookshire 1995: 146). The ability to provide the gist of a topic is said to be related to the macrostructure of discourse and the eventual communicative success of the subjects (Nicholas & Brookshire 1995). However, in this study, while the experimental subjects tended to provide the main points and exclude details in their narratives, they did not fare well on the main idea task. Their responses were mostly concrete in nature and as suggested by Ulatowska, Sadowska, Kordys & Kadziedwala (1993), this shows a tendency to adhere to the explicitly stated material instead of generalising.

The outcome on the fable is explained by the nature of the task. In contrast to other elicitation techniques, the fable consists of a full text from which the central meaning has to be inferred (Ulatowska et al 2001). The control subjects specifically seem to be aware of this aspect and most of them provided generalised responses regarding the main idea of the 'Fable'.

However, a substantial percentage of concrete inappropriate responses were obtained for both groups, more so for the experimental group. It appears that the individuals with aphasia had to recall a number of thematic units to be able to reproduce the

'Fable' and they found it problematic to focus on the main point of the story. When asked about the main idea on completion of their narrations, they were unable to give the most important point of the story even if at times, they were able to correctly provide a lesson, *involuntarily* at the end of their stories.

- **Lesson**

A lesson was required for the 'Apple Theft' and 'Fable' tasks only. The responses are tabulated in Tables 5.3 and 5.4 (page 80).

While the control subjects mainly provided generalised and appropriate responses, the experimental subjects responses were varied. On the 'Apple Theft' task, the experimental subjects' responses consisted mostly of concrete inappropriate and general appropriate responses. However, on the 'Fable', responses were mainly concrete inappropriate and general inappropriate in nature. Therefore, there is a tendency to generalise in response to a lesson. These findings are similar to those of Ulatowska et al (1998) but differed from Von Bentheim (2000) who found that most of the experimental subjects provided general appropriate responses on the 'Apple Theft' and concrete inappropriate ones on the 'Fable'. Venter (2000) reported variable performance across and within groups and Honda et al (1999) noted difficulties experienced by the individuals with aphasia in providing morals.

Deriving a lesson from a fable reflects the individual's appreciation of the central meaning of the text. A metaphorical interpretation of discourse is based on an interaction of cognitive and linguistic abilities. Also, pragmatic knowledge is necessary as a fable usually conveys general truths about sociocultural principles of appropriate behaviours (Ulatowska et al 2001). As noted by Ulatowska et al (1983), the experimental subjects' deficit in the provision of morals is thought to be more of a cognitive impairment than a linguistic difficulty. The fact that these persons show the ability to understand and produce the most important information justifies this claim. Providing a moral is said to involve the highest level of comprehension (Ulatowska et al 1983). This could possibly explain the performance of some of the experimental subjects. The provision of morals also depends on real world as well as experiential knowledge.

Moreover, the results revealed that there is an element of confusion between main idea and lesson amongst subjects in both groups. Instructing the participants as to 'what is the main idea of the story' seems to have triggered a general level of thinking which would rather have been expected for the lesson. A few examples are cited below to illustrate this point:

Experimental group:

S2

The Fall

'Kan en dimoune en danzer,toi en tank camarade, to bizin aide li( )'

*'When somebody is in danger, you as a friend, should help him ( )'*

S9

Fable

'( )nou bizin ecoute parole gran dimounes ( )'

*'( ) we must listen to our elders ( )'*

Control group:

C1

Fable

'Couma dire ou bizin fer la peine non,oui'

*'Like you must work hard, yeah'*

C7

Apple Theft

'kiksoz ki pa appartenir ou, zamai ou tousse li'

*'You mustn't steal something that does not belong to you'*

Considering that both the control as well as the experimental subjects were confused when asked about the main idea and then the lesson at the end of their narratives, it is suggested by the researcher that the instructions are modified when administering the battery. This element of confusion could potentially be avoided if before the subject is asked to give a story, s/he is told that at the end of the story s/he will be required to provide the main idea and a lesson. The subject will be aware that there is a difference between the main idea and lesson, thus warranting different responses.

### **5.2.9 Some conclusions on quality analysis**

The findings indicate that the individuals with mild to moderate aphasia, overall could produce narrative texts with preserved superstructure, chronological organisation and referencing. However it is proposed that an increase in severity of aphasia and lower educational status appear to affect the subjects' performance regarding superstructure, chronological organisation and reference.

## **5.3 Analysis of Evaluation**

The evaluative elements in a text are said to be related to the well-formedness of discourse, making it worth telling and interesting (Ulatowska et al 1981). The present study focused on the use of intensifiers between and within groups. The results are displayed in Tables 5.12 and 5.13.

Table 5.12: Analysis of evaluation of the experimental group

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	T
<b>The Fall</b>											
Q	2	3	0	0	0	3	1	2	5	0	16
R	1	1	0	0	2	0	0	0	1	0	5
RU	0	0	0	2	1	1	0	4	0	0	8
LI	0	2	0	0	3	0	0	0	1	0	6
O	0	0	0	0	0	0	0	0	1	0	1
EP	1	1	0	0	0	0	0	2	1	1	6
G	3	2	0	0	1	1	0	2	2	3	14
<b>T</b>	<b>7</b>	<b>9</b>	<b>0</b>	<b>2</b>	<b>7</b>	<b>5</b>	<b>1</b>	<b>10</b>	<b>11</b>	<b>4</b>	<b>56</b>
<b>Crocodile Attack</b>											
Q	2	4	1	0	1	6	2	3	0	3	22
R	2	1	0	1	1	1	0	0	0	0	6
RU	0	5	0	0	0	6	0	0	1	0	12
LI	0	0	0	0	1	1	0	0	0	0	2
O	0	0	0	0	0	0	0	0	1	0	1
EP	5	2	1	2	1	0	0	2	1	1	15
G	1	0	0	0	1	0	0	1	1	2	6
<b>T</b>	<b>10</b>	<b>12</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>14</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>64</b>
<b>Apple Theft</b>											
Q	4	7	1	1	4	2	4	5	4	10	42
R	1	1	0	0	0	0	0	0	1	0	3
RU	0	4	0	2	3	4	0	0	3	0	16
LI	0	0	0	2	0	0	0	0	2	0	4
O	0	0	0	0	0	0	0	0	2	2	4
EP	1	2	1	0	1	1	0	1	1	1	9
G	3	4	0	0	2	0	0	3	5	5	22
<b>T</b>	<b>9</b>	<b>18</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>9</b>	<b>18</b>	<b>18</b>	<b>100</b>
<b>Farmer &amp; sons</b>											
Q	4	6	1	1	0	2	4	3	5	2	28
R	2	1	0	0	1	1	0	0	1	1	7
RU	5	5	0	0	0	1	2	0	9	0	22
LI	2	0	0	0	1	1	0	0	2	0	6
O	0	0	0	0	0	0	0	0	0	0	0
EP	1	6	1	0	1	2	1	1	6	0	19
G	1	1	0	0	0	0	0	1	2	0	5
<b>T</b>	<b>15</b>	<b>19</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>7</b>	<b>5</b>	<b>25</b>	<b>3</b>	<b>87</b>
<b>Personal Experience</b>											
Q	9	14	0	0	1	5	7	7	10	16	69
R	3	8	3	1	5	10	3	1	2	5	41
RU	5	2	4	2	6	2	7	7	4	7	46
LI	0	0	0	0	0	0	4	0	2	0	6
O	2	1	0	0	0	2	0	0	1	3	9
EP	3	11	3	2	3	13	1	1	3	5	45
G	4	11	1	0	3	8	0	4	7	10	48
<b>T</b>	<b>26</b>	<b>47</b>	<b>11</b>	<b>5</b>	<b>18</b>	<b>40</b>	<b>22</b>	<b>20</b>	<b>29</b>	<b>46</b>	<b>264</b>

Table 5.13: Analysis of evaluation of the control group

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	T
<b>The Fall</b>											
Q	1	0	0	3	0	4	1	3	3	3	18
R	0	0	1	0	0	0	0	1	0	1	3
RU	3	0	1	2	0	6	2	3	1	2	20
LI	0	0	2	0	0	1	0	1	0	1	5
O	0	0	0	0	0	1	0	0	0	0	1
EP	0	2	0	0	1	2	0	3	1	0	9
G	0	1	1	0	2	5	0	5	0	0	14
<b>T</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>19</b>	<b>3</b>	<b>16</b>	<b>5</b>	<b>7</b>	<b>70</b>
<b>Crocodile Attack</b>											
Q	2	0	2	1	1	1	1	3	4	0	15
R	0	0	0	0	1	1	0	1	0	0	3
RU	7	2	1	1	2	3	4	7	0	1	28
LI	0	0	0	0	0	0	1	1	0	2	4
O	0	0	0	0	0	0	0	0	0	0	0
EP	1	1	1	0	3	2	2	3	0	1	14
G	0	1	0	0	1	0	7	5	0	0	14
<b>T</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>8</b>	<b>7</b>	<b>15</b>	<b>20</b>	<b>4</b>	<b>4</b>	<b>78</b>
<b>Apple Theft</b>											
Q	1	11	3	2	7	9	1	5	2	4	45
R	1	2	1	0	0	0	0	0	1	1	6
RU	3	3	6	0	5	4	9	4	2	4	40
LI	0	2	4	0	2	1	0	0	0	0	9
O	0	1	2	0	0	0	0	0	0	1	4
EP	1	2	7	0	5	3	1	1	1	1	22
G	0	2	2	0	9	6	1	6	4	0	30
<b>T</b>	<b>6</b>	<b>23</b>	<b>25</b>	<b>2</b>	<b>28</b>	<b>23</b>	<b>12</b>	<b>16</b>	<b>10</b>	<b>11</b>	<b>156</b>
<b>Farmer &amp; sons</b>											
Q	2	3	2	3	1	1	1	2	3	0	18
R	2	0	2	0	2	0	2	2	1	1	12
RU	13	1	2	2	2	5	6	8	0	6	45
LI	2	1	1	1	1	4	4	1	0	0	15
O	1	0	0	0	2	1	0	5	0	1	10
EP	1	5	4	0	1	5	2	7	3	1	29
G	0	0	0	0	1	0	0	5	0	0	6
<b>T</b>	<b>21</b>	<b>10</b>	<b>11</b>	<b>6</b>	<b>10</b>	<b>16</b>	<b>15</b>	<b>30</b>	<b>7</b>	<b>9</b>	<b>135</b>
<b>Personal Experience</b>											
Q	11	9	10	6	15	15	15	3	1	4	89
R	3	6	5	1	2	5	3	1	1	3	30
RU	8	9	3	3	0	12	12	3	0	3	53
LI	1	7	4	0	1	7	3	0	1	0	24
O	0	1	1	2	0	4	2	2	2	3	17
EP	3	12	5	0	6	11	7	4	2	1	51
G	1	10	3	0	3	5	4	4	1	1	32
<b>T</b>	<b>27</b>	<b>54</b>	<b>31</b>	<b>12</b>	<b>27</b>	<b>59</b>	<b>46</b>	<b>17</b>	<b>8</b>	<b>15</b>	<b>296</b>

Key for Tables 5.5 and 5.6:

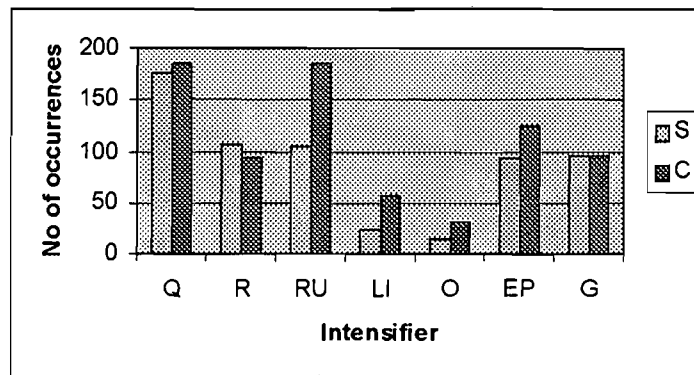
Q: Quantifier                      R: Repetition for effect                      RU: Ritual utterance  
 LI: Lexical item                      O: Other                      EP: Expressive phonology                      G: Gesture

As can be seen in Tables 5.12 and 5.13, the experimental subjects presented with reduced use of intensifiers in comparison to the control subjects. This supports findings by Von Bentheim (2000) and Venter (2000) who noted that their control participants employed more intensifiers compared to their experimental subjects.

An analysis of the experimental group showed that S3, S4 and S7 consistently received lower ratings on all tasks except the 'Personal Experience' narrative whereby S7 showed an increased use of intensifiers. S5 and S10 achieved low scores on the 'Fable' only. With the exception of S3, all subjects' performance could be related to their poor WAB scores and low educational status. S2 and S9 made extensive use of evaluative features across all tasks.

It is proposed by the researcher that a possible relationship exists between use of evaluative devices and quality ratings, more specifically on coherence and suspense. Amongst the experimental subjects, S4 and S7 received low ratings on evaluation and similarly scored low ratings on quality. This effect is especially apparent on the 'Personal experience' task. S1, S2, S6, S9 and S10 employed a range of intensifiers extensively and they all received higher ratings on quality compared to the other experimental subjects. In the control group, C2 and C6 employed a substantial degree of intensifiers, almost twice as many as the other control subjects and they were the only ones to reach a maximum score of eighteen on evaluation analysis. These participants also scored maximally on suspense. Indeed, the relationship between evaluation devices and coherence and suspense needs to be analysed in depth in future research.

Figure 1 illustrates this difference between groups across the different intensifiers.



Key:

Q: Quantifier      R: Repetition for effect      RU: Ritual utterance      LI: Lexical item  
 O: Other      EP: Expressive phonology      G: Gesture  
 S: Experimental group      C: Control group

*Figure 1: Incidence of the different intensifiers across groups*

Figure 1 above shows the increased performance of the control subjects as compared to the experimental subjects on the use of all types of intensifiers with the exception of repetition for effect. It is interesting to note that the experimental subjects obtained higher scores on this feature compared to the control subjects. Repetition for effect could be used as a compensatory strategy by the individuals with aphasia to orient them while narrating a story. This suggestion is further explored later in the discussion. Overall, the use of intensifiers from the most to the least used evaluative device is depicted in Table 5.14.

Table 5.14: Order of use of intensifiers by both groups

Experimental group	Control group
Quantifier	Ritual utterance
Repetition for effect	Quantifier
Ritual utterance	Expressive phonology
Gesture	Gesture
Expressive phonology	Repetition for effect
Lexical item	Lexical item
Other	Other

As can be seen in Table 5.14, the control group frequently used ritual utterances followed by quantifiers while the experimental subjects made greater use of not only quantifiers but also repetition for effect which is one of the least used intensifiers by the control subjects. These findings differ from Von Bentheim (2000) who found that in the experimental group, the most frequently used intensifier was ritual utterance followed by gesture, quantifier, expressive phonology and repetition for emphasis. In Von Bentheim's (2000) study, the control group used mostly expressive phonology followed by ritual utterance, gesture, quantifier and repetition for effect.

Ulatowska et al (1998; 2000) stated that discourse highlights the richness of language unique to various cultures. The marked use of ritual utterances by the control subjects appears to characterise Mauritian Creole discourse. The experimental subjects presented with reduced incidence of this intensifier which could possibly explain their low ratings on coherence on quality analysis. Ritual utterances seem to act as a device to maintain the flow of discourse, employed while the subjects are formulating and organising their thoughts, thus contributing to the well-formedness of discourse.

Tables 5.12 and 5.13 reveal that, in general, the control subjects used more intensifying elements across tasks compared to the experimental subjects. The 'Apple theft' and the 'Fable' revealed the most notable differences between the groups in terms of incidence of evaluative elements. The 'Personal Experience' narrative elicited the highest number of intensifiers compared to the other tasks. The 'Single

Pictures' stimuli produced the least number of occurrences of intensifiers and also failed to show any distinct differences between the experimental and control subjects. Therefore, the type of stimuli appeared to influence the use of intensifiers. However, although qualitative analysis revealed certain differences between the groups, statistical analysis did not show any significant differences in the use of evaluative elements between the groups.

On the 'Single Pictures' stimuli, ritual utterance produced the largest difference between groups. The 'Apple theft' task denoted a marked increase in the use of quantifiers and gestures in both groups. Von Bentheim (2000) also noted an increase in the use of gestures by the experimental group and good use quantifiers on this task. The 'Fable' does not seem conducive to the elicitation of evaluative devices. It is a story retell whereby the subjects were presented with the written material. The script itself did not include a substantial degree of intensifiers. On the 'Personal Experience' task, a marked increase in use of quantifiers, repetition for effect, ritual utterances, expressive phonology and gestures is noted in both groups. Of particular interest, the experimental subjects showed an enhanced use of repetition for effect and gestures, more so than the control subjects.

While repetition for effect was used minimally by both groups on the other tasks, a distinct change was evident on the 'Personal Experience' task. Similar to Von Bentheim's (2000) findings, the experimental subjects tended to employ more repetition for effect on this task. Ulatowska et al (1983) reported that the individuals with aphasia produced much less evaluation overall on this task.

The difference between the groups seems to lie mainly in quantity rather than quality. Therefore, it appears that the ability to use evaluative devices is not lost but reduced with aphasia. The relative preservation of the use of evaluative elements in the discourse of the experimental subjects has important implications regarding the preservation of pragmatic abilities of these individuals. The use of intensifying devices indicate that the experimental subjects took into account the listener's perspective and tried to make their stories worth hearing and interesting.

## 5.4 Relationship between Quality Analysis and Analysis of Evaluation

Non-parametric correlation analysis using Spearman's rho was applied to the data to evaluate whether there was any relationship between the parameters of quality and the use of evaluative devices.

The results are presented in Table 5.15. Only P values contributing towards a positive relationship between parameters have been included.

*Table 5.15: Non-parametric correlation between quality analysis and analysis of evaluation*

	<b>Repetition for effect</b>	<b>Ritual utterance</b>	<b>Expressive phonology</b>
<b>Reference</b>	.472	-	-
<b>Suspense</b>	.486	.624	.592
<b>Coherence</b>	-	.471	-

- **Repetition for effect**

As can be seen from Table 5.15, a positive correlation was obtained between repetition for effect and reference. This result supports findings by Ulatowska et al (2000c) who reported that repetition was employed in narratives as a means to emphasise the theme of narratives. Also, Tannen (1989 cited in Ulatowska et al 2000c) noted that from a discourse perspective, repetition can contribute to the establishment of background information or theme against which new information is introduced. It is suggested that repetitions are employed as a compensatory strategy by the experimental subjects. Certain repetitions act as reference points so as to ensure the chronology of events.

Suspense was also positively correlated with repetition for effect which supports Ulatowska et al (2000c) who said that repetition served as a way to expand and emphasize a point contributing towards an overall fearfulness of the situation

### **5.5.1 Single pictures stimuli (The Fall & Crocodile Attack)**

- Produced the shortest narratives (WC), least number of propositional units but variable ratios in both groups
- Failed to show any differentiation between groups on WC, PU and Ratio
- Yielded lowest scores on suspense in both groups
- Produced the least amount of intensifying elements
- In the experimental group, the following results were obtained:
  - Preserved global structure, referential ability and clarity
  - Marked disruption in temporal sequence
  - An increase in severity of aphasia and low educational level appears to negatively affect scores on quality
  - ‘The Fall’ generated a substantial degree of concrete inappropriate responses on main idea while ‘Crocodile Attack’ yielded general appropriate responses

The results denote that the single picture stimuli failed to highlight the subtle communication difficulties experienced by the individuals with aphasia. Even within the control group, the narratives consisted of short sentences and simple language. This mode of discourse elicitation is presumably beneficial for persons with severe aphasia as it gives them a concrete framework to build a narrative. It appears that ‘Single Pictures’ stimuli do not present as the ideal material in the assessment of discourse in the individuals with mild to moderate aphasia.

### **5.5.2 Sequence pictures (Apple Theft)**

- Produced marked differences between groups on WC and PU
- The experimental group showed:
  - Relatively preserved global structure, reference, temporal sequence and clarity
  - Poor coherence and suspense in their narratives
  - Failure to use cohesive devices adequately is thought to explain lower ratings on coherence
  - Main points included in narratives but failed to include details

- Mainly concrete inappropriate responses were obtained on main idea and lesson. A substantial degree of general appropriate answers were also recorded on lesson
- Analysis of evaluation best differentiated between groups on this task

Considering the results, it is proposed that the 'Apple Theft' can potentially pinpoint a specific difficulty experienced by the experimental subjects; that of the ability to produce a coherent text. Their continuity of ideas was disrupted through a reduced use of cohesive elements necessary to link the events across the four pictures. Suspense was also affected; probably because the participants were more intent on formulating and organising ideas rather than focusing on the manner in which their dialogue was delivered.

### **5.5.3 Fable (Farmer & Sons)**

- Produced marked differences on WC, PU and Ratio between groups with notably poorer performances exhibited by the experimental subjects
- The following observations were noted in the experimental group:
  - With the exception of clarity, all features of quality analysis seem to be affected by aphasia
  - Mostly concrete inappropriate responses were obtained on main idea while the lesson additionally generated general inappropriate answers
  - Decreased use of several intensifiers noted in the analysis of evaluation.

The 'Fable' story is culturally relevant for the Mauritian population as the participants appeared to relate easily to the story. C3 even noted that it applies to the Indians in the Mauritian context as these people left their motherland in their bid to seek fortunes in Mauritius. They immigrated because of stories circulating in India at that time of the 'gold that could be found under rocks in Mauritius', meaning that 'if an individual worked hard enough, fortunes would come his/her way eventually'.

Fables are full narrative texts that have an explicit context whereby the central meaning has to be inferred. This interpretation relies on an interaction of cognitive as

well as linguistic abilities (Ulatowska et al 2001). Story retelling appears to present as an effective measure of narrative ability. Merritt and Liles (1989) concluded that the task activates a cognitive organisation consistent with story schema. Thus, this task is useful in assisting in clinical assessment of communicative function as it involves higher levels of processing.

#### **5.5.4 Personal narrative (Personal Experience)**

- Produced the lengthiest narratives, largest number of propositional units and higher ratios compared to other tasks for both groups
- The experimental subjects showed relatively preserved narrative structure, suspense, chronology of events, reference, coherence and clarity
- Elicited the highest scores on evaluation analysis for both groups
- Denoted a relationship between suspense and the topic of the narrative

The 'Personal Experience' narrative increased the quantity of information provided by the participants. However, it did not discriminate between the two groups across all parameters of analysis. Of clinical interest though, this task permits the clinician to gain insight into the discourse characteristics of a specific culture as it encourages discourse which can potentially reveal the natural language employed by the participants in daily living.

Labov (1972 cited in Ulatowska et al 2000a) suggested that while narrating a personal experience, the speakers become involved in rehearsing or reliving events from his/her past. Also, Harris (1997 cited in Ulatowska et al 2000a) stipulated that reminiscence therapy is useful in language intervention especially for older people from culturally and linguistically diverse backgrounds. As such, the 'Personal Experience' task can supplement standardised tests by providing culturally representative language. Moreover, it is an enjoyable task which carries diagnostic value (Ulatowska et al 2000a).

It is interesting to note that the most common topic in both groups involved a 'near drowning' experience. Mauritius is an island which makes access to the beach easy

for almost all the inhabitants. The topic is important as finding appropriate and culturally relevant themes in assessment is deemed essential.

### **5.5.5 Some conclusions on task effects**

While global structure, temporal sequence, reference, suspense, coherence, clarity and additionally completeness and accuracy contribute towards the quality of a narrative. It appears that from the results of the study, different tasks tend to more clearly differentiate between groups on certain parameters. These are summarised below:

- ‘Single Pictures’ stimuli: temporal sequence
- ‘Apple Theft’: global structure, coherence
- ‘Fable’: all categories with the exception of clarity
- ‘Personal Experience’: suspense

The ‘Fable’ appears to have the greatest potential as all categories except clarity resulted in a significant difference between the groups. The ‘Personal Experience’ task has the potential to elicit language that is indigenous to the population.

## **5.6 Interpretation of Idiomatic Creole Expressions**

Proverbs are commonly employed as a diagnostic tool to evaluate an individual’s ability to think abstractly (Chapman, Ulatowska, Franklin, Shobe, Thompson & McIntire 1997; Ulatowska et al 2001). Proverbs from the Ulatowska et al (1998) Test Battery were substituted for idiomatic Creole expressions for reasons explained in Chapter 4. These expressions also test abstract thinking which according to Van Lancker (1990 cited in Chapman et al 1997) involves the highest level of cognitive functioning.

### **5.6.1 Familiar v/s unfamiliar expressions**

All the participants were familiar with the expressions presented to them. It is deemed necessary to establish familiarity with the expressions as the process of

accessing the figurative meaning differs for familiar versus unfamiliar expressions. Interpretation of a familiar expression involves semantic memory while the unfamiliar expression places greater demands on working memory and problem solving (Chapman et al 1997; Ulatowska, Sadowska, Kadzielawa, Kordys & Rymarczyk 2000b).

### 5.6.2 Spontaneous interpretation

The responses were scored according to a rating scale provided by Ulatowska et al (1998). The results are tabulated in Table 5.16.

*Table 5.16: Ratings of experimental and control groups on spontaneous interpretation of expressions*

S	I1	I2	I3	I4	I5	C	I1	I2	I3	I4	I5
<b>S1</b>	6	4	6	6	4	<b>C1</b>	0	4	0	4	6
<b>S2</b>	3	6	3	0	6	<b>C2</b>	6	6	6	6	6
<b>S3</b>	6	6	6	5	5	<b>C3</b>	6	6	6	6	6
<b>S4</b>	0	0	0	0	6	<b>C4</b>	6	6	6	6	6
<b>S5</b>	5	4	0	4	6	<b>C5</b>	6	4	0	4	6
<b>S6</b>	6	5	6	6	5	<b>C6</b>	6	6	6	6	6
<b>S7</b>	6	6	6	6	6	<b>C7</b>	5	5	6	6	6
<b>S8</b>	0	0	0	0	0	<b>C8</b>	6	6	6	6	6
<b>S9</b>	6	6	6	4	5	<b>C9</b>	6	6	6	6	6
<b>S10</b>	0	6	0	0	4	<b>C10</b>	6	6	6	6	6

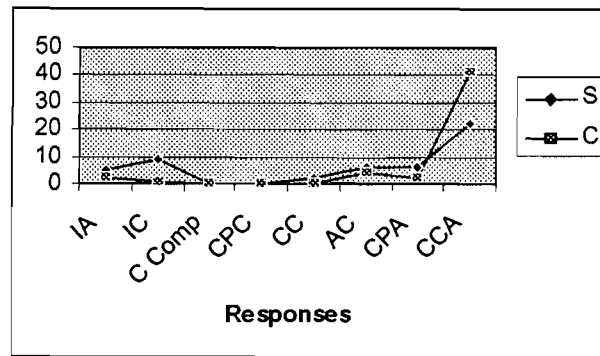
Key:

I1– I5: Idiomatic Creole expressions 1 to 5

S1 – S10: Experimental subjects 1 to 10

C1– C10: Control subjects 1 to 10

Table 5.9 reveals that overall the control subjects produced correct complete abstract responses while variable responses were obtained by the experimental subjects. Each score from Table 5.9 is indicative of a specific type of response given by the subjects. Figure 3 illustrates the difference in the number of occurrences of each type of response between groups on the spontaneous interpretations. For example, the total number of occurrences of the score six (6) in Table 5.9 indicates the number of complete correct abstract responses obtained in each group.



Key:

IA: Incorrect abstract Response

IC: Incorrect Concrete Response

C Comp: Incomplete Response with a Concrete Component

CPC: Correct Partial Concrete Response

CC: Correct Concrete Response

AC: Response with an Abstract Component

CPA: Correct Partial Abstract Response

CCA: Correct Complete Abstract Response

Figure 3: Different types of responses obtained by both groups on spontaneous interpretation of expressions

From Figure 3, it can be seen that the control subjects produced more complete correct abstract responses compared to the experimental subjects. The results support findings by Ulatowska et al (1998) and Von Bentheim (2000) who reported that the control participants produced more abstract responses than the experimental subjects. Figure 3 also illustrates that the control subjects' responses were categorised under four types only (correct complete abstract, correct partial abstract, response with an abstract component and incomplete abstract responses) while the experimental subjects provided diverse responses. In fact, with the exception of correct partial concrete and incomplete response with a concrete component, several instances of all other responses were noted.

Both groups produced the highest score on the idiomatic expression 5 (IE: 5). The lowest rating for the experimental and control groups were obtained on IE: 4 and IE: 3 respectively. While interpretation of IE: 4 was problematic for the persons with aphasia, all the incorrect responses were abstract in nature. Similarly, the control group produced all abstract responses and in addition, they were all correct. Overall,

the control subjects seem aware of the fact that a non-literal meaning is required. Failure to interpret an expression resulted in the control subjects producing incorrect abstract representations rather than concrete responses as was the case in the experimental group. It is interesting to note that abstract responses were obtained by some of the experimental subjects as well as showing an awareness of the metaphorical sense of these idiomatic expressions. Hence suggesting the preservation of pragmatic knowledge in the experimental group is again highlighted in this instance.

Van Lancker (1990 cited in Chapman et al 1997) suggested that the difficulty conveying the abstract meaning for some of the experimental subjects is thought to be due to limitations in verbal expression rather than inability to think abstractly as illustrated in the following examples. S4 and S8 received the lowest scores and they had marked disruption in verbal output. During assessment, S4 noted that 'he knows but can't explain' while S8 said that 'these (expressions) are all simple and easy but can't explain'.

The experimental subjects' responses were marked with a high incidence of repetition, circumlocution and semantic paraphasias. Such adaptation features were not as prevalent in their narratives. However, analysis of these texts using proverbs as an elicitation technique seems to have a strong potential in highlighting the underlying difficulties experienced by the mild to moderate individuals with aphasia.

In addition, the low incidence of concrete responses in the experimental group may indicate preserved cognition. Therefore, most of the participants demonstrated awareness of the figurative nature of these expressions. Chapman et al (1997) stipulated that at a cognitive level, correct interpretation of proverbs depends on recognition of the metaphorical aspects underlying proverbs.

Furthermore, it was noted that the experimental subjects employed more words and situational examples to interpret the expressions. The control subjects mostly gave direct, succinct sentences to express the same interpretation. Some examples are provided below to illustrate this point. The expected responses for each expression are cited below for the benefit of the reader:

IE: 2 → I don't want to have anything to do with you

IE: 3 → I don't understand anything of what's happening

IE: 4 → I was so embarrassed

IE: 5 → I am in great difficulty

The examples are as follows:

Example I:

IE: 2

S10

'Mo lave la main. 1 boug 1 boug dire coumsa li lave so la main, li lave so la main are toi, voue dire, ki maniere, dire coumsa, couma dire dan 1 la raz, lave la main are toi.

To guete to zafer, mo guete pu moi.'

*'I wash my hands. A guy a guy said like he washes his hands, he washes his hands off. You, like, how, said like in a rage, wash hands off you. You mind your business, I'll mind my own business'*

C10

'Mo lave la main are toi, c coupe tou relation avec li'

*'I wash my hands off him, it's I break all relationships/connections with him'*

Example II:

IE: 3

S6

'Li soz couma sapel . Sipose 1 la misik p zwe. Mo dire, meme hier, mon dire ban ti zenfan 'ban ti zenfans' mo dire zot zenfan ... gete zot gander 1 coute, zot p conne danse". Mo absolumenty 1 lisien dan la misik acoz mo pa compren ditu seki zot p fer. Zot in compren, zot p danser, zot compren, zot p compren. Hier soir, mo p dire zot sa'

*'It's thingie how you call it. Supposedly music is playing. I said, even yesterday, I told the small children "children ... see how small you are, you are dancing". I am absolutely a dog in music because I don't understand what they're doing. They understood, they're dancing, they understand, they understood. Last night, I told them that'*

C6

*'Couma dire, mo pa p compren narien moi, to compren. Mo pan compren narien zot conversation,seki zot p fer,voila '*

*'Like, I don't understand anything, you understand. I don't understand their conversation, what they are doing, that's it'*

Example III:

IE: 4

S9

*'Koiki ... tan li parmi la societe, line al fer l l kiksoz ki pa ti bizin fer. Finalmen, zot tou in vire zot regard lor li, c tou'*

*'So ... while he was in society, he did something that he shouldn't have. Therefore, everybody turned away from him, that's all'*

C9

*Couma dire, mon mon pa ein mon mon ek mo fine consterne, gagne l consternation ... l deconcerte'*

*Like, I I not well I I and I was embarrassed... embarrass... an embarrassment'*

Example IV:

IE: 5

S6

‘Dan pince sa,couma mo pu dire ou sa. Kestion casse. Pena casse dan lacaz. Se sa,non’

*‘How will I explain that. A question of money. There’s no money in the house. That’s it, no’*

C6

‘Mo dan diffikilte’

*‘I am experiencing great difficulties’*

Considering the expected answers, the experimental subjects gave indirect responses supported by situational examples while the control subjects gave direct, more generalised responses. The experimental subjects’ failure to adequately extrapolate their interpretations to a more generalised format supports findings by Ulatowska et al (1998) and Venter (2000) who noted that the individuals with aphasia in their studies did not show the tendency to generalise information. Thus, it is believed that perhaps abstract thinking is not affected by mild to moderate aphasia, however difficulties at the linguistic level make it problematic for these individuals to formulate direct interpretations.

### **5.6.3 Multiple choice formats**

The scores obtained by each group on the multiple choice task are tabulated in Table 5.17.

Table 5.17: Scores obtained by the experimental and control subjects on the multiple choice formats

S	IE: 1	IE: 2	IE: 3	IE: 4	IE: 5	T	C	IE: 1	IE: 2	IE: 3	IE: 4	IE: 5	T
S1	2	2	2	2	2	10	C1	0	0	0	0	0	0
S2	0	0	0	0	2	2	C2	2	2	2	2	2	10
S3	2	2	2	2	2	10	C3	2	2	2	2	2	10
S4	0	0	2	0	2	4	C4	0	2	2	2	2	8
S5	2	2	0	2	2	8	C5	2	2	0	0	0	4
S6	0	0	0	0	0	0	C6	2	2	2	2	2	10
S7	2	0	0	0	2	4	C7	0	2	2	2	2	8
S8	2	0	0	0	0	2	C8	2	2	2	2	2	10
S9	2	2	2	2	2	10	C9	2	2	2	2	2	10
S10	0	0	0	2	2	4	C10	2	2	2	2	2	10
T	12	8	8	10	16	54	T	14	18	16	16	16	80

Key:

IE: 1 to IE: 5: Idiomatic expression 1 to 5

Table 5.17 highlights the superior performance of the control subjects on this task, supporting conclusions reached by Von Bentheim (2000) and Venter (2000) who reported that the control subjects obtained higher scores compared to the experimental subjects. Considering the performance of the experimental subjects, all the subjects obtained low scores with the exception of S1, S3, S5 and S9. In the control group, C1 and C5 received the lowest ratings compared to the other participants in this group.

Table 5.18 illustrates the types of response selected by the subjects using the multiple choice selections.

Table 5.18: Type of response obtained on multiple choice formats for both groups

S	IE: 1	IE: 2	IE: 3	IE: 4	IE: 5	C	IE: 1	IE: 2	IE: 3	IE: 4	IE: 5
S1	AA	AA	AA	AA	AA	C1	AI	CI	AI	AI	AI
S2	AI	CI	CA	AI	AA	C2	AA	AA	AA	AA	AA
S3	AA	AA	AA	AA	AA	C3	AA	AA	AA	AA	AA
S4	AI	CA	AA	CI	AA	C4	CA	AA	AA	AA	AA
S5	AA	AA	CI	AA	AA	C5	AA	AA	CA	CA	CI
S6	AI	AI	AI	CA	AI	C6	AA	AA	AA	AA	AA
S7	AA	CA	CA	AI	AA	C7	CA	AA	AA	AA	AA
S8	AA	CA	AI	AI	CA	C8	AA	AA	AA	AA	AA
S9	AA	AA	AA	AA	AA	C9	AA	AA	AA	AA	AA
S10	AI	CA	CI	AA	AA	C10	AA	AA	AA	AA	AA

Key:

AA: Abstract Appropriate

AI: Abstract Inappropriate

CA: Concrete Appropriate

CI: Concrete Inappropriate

As can be seen from Table 5.18 above, most of the control subjects produced abstract appropriate responses. When incorrect choices were made, they were concrete in nature but still appropriate. In the experimental group, abstract appropriate responses were selected but to a lesser extent compared to the control subjects. Incorrect choices selected were abstract inappropriate, concrete appropriate or concrete inappropriate.

The multiple choice format as an assessment technique was of some concern to the researcher in that the task is didactic in nature which provides the subjects with a feeling of a formal testing procedure where a right answer is demanded. It also places great demands on working memory. As noted by Chapman et al (1997) and Ulatowska et al (1999, 2000), a person has to selectively attend to all the choices presented while simultaneously trying to map each one to his/her own individual target interpretation held in memory (Chapman et al 1997; Ulatowska et al 1999; 2001). The load on cognition is increased, thus perhaps accounting for the poorer performances by the experimental subjects.

#### **5.6.4 Spontaneous interpretations v/s multiple choices**

From the results, it was noted that a low rating on spontaneous interpretations in the experimental group correlates well with a low rating on the multiple-choice task. However, a high rating on spontaneous interpretation does not necessarily guarantee high ratings on the multiple-choice task. In the control group however, a positive correlation between ratings on the spontaneous and the multiple-choice tasks is observed. Only, C1 and C5 provided more correct abstract responses on the spontaneous rather than the multiple choice tasks.

#### **5.6.5 General discussion on interpretation of idiomatic creole expressions**

The findings from this study confirm previous reports that individuals with aphasia have significantly more difficulty on this task than control subjects (Ulatowska et al 1989, 1995; Chapman & Ulatowska 1992; Chapman et al 1998; Ulatowska & Chapman 1994; Van Lancker 1990 cited in Ulatowska et al 2001; Von Bentheim 2000; Venter 2000). The lack of generalised responses in the experimental group is

thought to be due to a language impairment. Generalisation requires the retrieval and use of more complex lexicon and syntax which is not available from the original text. Also, they place more demands on cognition (Ulatowska et al 2001).

For successful interpretation, semantic and pragmatic knowledge are both essential (Ulatowska et al 2001). Semantic knowledge allows a person to understand the meaning of the words and pragmatic knowledge enables the individual to correctly interpret the figurative expression as well as know under what circumstances to use these expressions. The preservation of pragmatic knowledge by the individuals with aphasia is apparent as most of them gave abstract rather than concrete responses. Moreover, they provided correct situational examples to interpret these expressions, hence, showing a preservation of their pragmatic ability.

Finally, the idiomatic expressions selected for the study are believed to be culturally salient and familiar. They are based on daily use of the Creole language in informal situations. Therefore, their interpretation should potentially elicit natural language specific to the Mauritian context.

### **5.7 Adaptation Features**

Adaptation features refer to the different ways in which an individual manages various trouble sources in conversation (Milroy & Perkins 1992). This aspect is particularly relevant in the evaluation of aphasic discourse considering the difficulties that usually arise from language impairments (e.g. word-retrieval problems, semantic and phonemic paraphasias and disturbances of grammatical production) (Milroy & Perkins 1992).

Dressler (1988: 11 in Buckingham 1992: 50) pointed out that normal speech errors 'can always be derived from target forms by means of anticipations, perseverations, metatheses, blends or less frequently, other substitutions'. The individuals with aphasia have important sensory and motor deficits. Also, they have difficulty controlling their speech output coupled with attention, motivation as well as memory

deficits which non-brain-damaged people presumably do not have (Buckingham 1992).

Two categories of adaptation features are recognised: aphasic adaptation features and general adaptation features. The language of persons with aphasia includes certain language features that result from specific adaptation features made by the speaker. Corrective adaptation occurs when the speaker tries to correct deviated language use and preventative adaptation which arises through intentional selection of simple sentence forms (Kolk et al cited in Menn & Obler 1990).

### **5.7.1 General adaptation features**

The adaptation features occurring under this category are listed in Tables 5.19 and 5.20.

Table 5.19: Incidence of general adaptation features in the experimental group

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	T
<b>TF: RS</b>	0	0	0	0	0	1	0	2	0	1	4
<b>RW</b>	0	7	0	0	3	1	0	2	1	0	14
<b>RP</b>	0	0	0	0	0	0	1	0	0	0	1
<b>RI</b>	1	0	0	1	0	0	1	1	0	1	5
<b>FS</b>	0	1	0	0	0	0	0	1	0	0	2
<b>PA</b>	1	1	0	4	2	0	1	6	1	0	16
<b>EF</b>	0	0	0	0	1	1	1	0	1	0	4
<b>T</b>	<b>2</b>	<b>9</b>	<b>0</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>12</b>	<b>3</b>	<b>2</b>	<b>46</b>
<b>CA: RS</b>	0	0	0	0	0	0	0	1	0	0	1
<b>RW</b>	1	1	0	1	1	2	1	2	2	0	11
<b>RP</b>	0	1	0	0	0	1	0	0	2	1	5
<b>RI</b>	0	2	0	0	1	0	0	0	0	0	3
<b>FS</b>	0	0	0	1	0	0	0	0	0	0	1
<b>PA</b>	0	2	0	3	1	1	0	3	3	3	16
<b>EF</b>	0	5	0	0	0	3	0	0	1	0	9
<b>T</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>5</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>8</b>	<b>4</b>	<b>46</b>
<b>AT: RS</b>	0	2	0	3	0	0	0	1	2	0	8
<b>RW</b>	0	0	0	2	2	0	1	4	0	6	15
<b>RP</b>	1	1	0	0	0	0	1	0	0	1	4
<b>RI</b>	1	1	0	1	0	0	0	0	0	1	4
<b>FS</b>	0	0	0	0	1	0	1	0	0	1	3
<b>PA</b>	1	2	1	6	0	0	0	7	1	3	21
<b>EF</b>	0	4	0	0	1	2	0	0	3	1	11
<b>T</b>	<b>3</b>	<b>10</b>	<b>1</b>	<b>12</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>12</b>	<b>6</b>	<b>13</b>	<b>66</b>
<b>FS: RS</b>	0	0	0	1	0	0	1	7	0	1	10
<b>RW</b>	1	4	0	1	2	2	8	8	0	1	27
<b>RP</b>	0	0	0	0	0	2	3	2	0	0	7
<b>RI</b>	1	0	2	1	0	2	1	2	4	2	15
<b>FS</b>	0	1	0	0	0	0	3	0	0	0	4
<b>PA</b>	4	1	0	13	0	4	4	6	6	3	41
<b>EF</b>	0	3	0	0	0	0	0	0	9	2	14
<b>T</b>	<b>6</b>	<b>9</b>	<b>2</b>	<b>16</b>	<b>2</b>	<b>10</b>	<b>20</b>	<b>25</b>	<b>19</b>	<b>9</b>	<b>118</b>
<b>PE: RS</b>	1	1	2	1	1	0	4	3	1	0	14
<b>RW</b>	3	4	0	0	3	2	6	2	3	0	23
<b>RP</b>	1	4	1	0	3	1	2	4	1	2	19
<b>RI</b>	1	4	0	1	2	1	2	1	1	4	17
<b>FS</b>	1	4	1	0	3	0	1	1	0	0	11
<b>PA</b>	5	4	2	4	8	5	12	6	3	6	55
<b>EF</b>	0	2	0	0	6	1	2	2	4	1	18
<b>T</b>	<b>12</b>	<b>23</b>	<b>6</b>	<b>6</b>	<b>26</b>	<b>10</b>	<b>29</b>	<b>19</b>	<b>13</b>	<b>13</b>	<b>157</b>

Table 5.20: Incidence of general adaptation features in the control group

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	T
<b>TF: RS</b>	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>RW</b>	2	0	4	0	1	5	2	1	0	0	<b>15</b>
<b>RP</b>	0	0	2	1	0	1	0	0	0	0	<b>4</b>
<b>RI</b>	0	0	0	0	0	1	0	0	0	0	<b>1</b>
<b>FS</b>	1	0	0	0	0	0	0	0	0	0	<b>1</b>
<b>PA</b>	0	5	3	2	0	2	1	0	0	1	<b>14</b>
<b>EF</b>	1	0	1	2	0	5	1	0	1	1	<b>12</b>
<b>T</b>	<b>4</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>14</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>47</b>
<b>CA: RS</b>	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>RW</b>	0	0	3	2	0	1	4	0	1	0	<b>11</b>
<b>RP</b>	0	0	0	0	0	1	2	0	1	1	<b>5</b>
<b>RI</b>	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>FS</b>	0	0	0	0	0	0	0	0	0	0	<b>1</b>
<b>PA</b>	1	1	4	4	2	2	6	3	4	1	<b>28</b>
<b>EF</b>	3	2	1	2	2	3	4	0	0	1	<b>18</b>
<b>T</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>7</b>	<b>16</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>63</b>
<b>AT: RS</b>	0	0	0	0	2	0	0	1	0	0	<b>3</b>
<b>RW</b>	0	0	0	1	1	3	4	1	0	0	<b>10</b>
<b>RP</b>	0	0	0	0	0	2	1	1	1	0	<b>5</b>
<b>RI</b>	1	0	0	0	0	2	0	0	0	1	<b>4</b>
<b>FS</b>	0	0	0	0	1	0	0	0	0	1	<b>2</b>
<b>PA</b>	1	7	11	2	2	2	4	1	2	5	<b>37</b>
<b>EF</b>	0	2	3	1	5	3	8	0	2	0	<b>24</b>
<b>T</b>	<b>2</b>	<b>9</b>	<b>14</b>	<b>4</b>	<b>11</b>	<b>12</b>	<b>17</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>85</b>
<b>FS: RS</b>	0	0	0	0	2	0	0	1	0	0	<b>3</b>
<b>RW</b>	4	2	2	3	1	5	3	2	3	1	<b>26</b>
<b>RP</b>	2	1	2	0	0	0	1	1	1	0	<b>8</b>
<b>RI</b>	1	0	1	0	1	0	2	1	0	0	<b>6</b>
<b>FS</b>	0	0	0	1	0	1	1	1	0	0	<b>4</b>
<b>PA</b>	0	8	9	5	6	3	6	4	1	2	<b>44</b>
<b>EF</b>	12	2	3	2	2	5	7	4	0	3	<b>40</b>
<b>T</b>	<b>19</b>	<b>13</b>	<b>17</b>	<b>11</b>	<b>12</b>	<b>14</b>	<b>20</b>	<b>14</b>	<b>5</b>	<b>6</b>	<b>131</b>
<b>PE: RS</b>	0	1	0	0	1	0	2	0	1	0	<b>5</b>
<b>RW</b>	0	1	2	0	3	2	2	1	0	0	<b>11</b>
<b>RP</b>	1	0	1	0	0	0	2	1	1	1	<b>7</b>
<b>RI</b>	2	1	1	1	2	2	1	0	0	0	<b>10</b>
<b>FS</b>	1	0	1	0	1	0	1	1	1	0	<b>6</b>
<b>PA</b>	6	10	5	5	5	2	10	1	2	3	<b>49</b>
<b>EF</b>	7	8	3	4	1	12	14	1	1	2	<b>53</b>
<b>T</b>	<b>17</b>	<b>21</b>	<b>13</b>	<b>10</b>	<b>13</b>	<b>18</b>	<b>32</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>141</b>

Key for Tables 5.11 &amp; 5.12:

S1 – S10: Experimental subjects 1 to 10

C1 – C10: Control subjects 1 to 10

RS: Repetition of sounds

RW: Repetition of words

RP: Repetition of phrases

RI: Repetition of ideas

FS: False starts

PA: Pauses

EF: Empty fillers

As is illustrated in Tables 5.19 and 5.20, the experimental subjects generally use more false starts, repetitions of sounds, words, phrases and ideas which supports conclusions reached by Von Bentheim (2000) and Ulatowska et al (1998) who reported a high incidence of such features in the discourse of persons with aphasia. In the present study, the control group made extensive use of pauses and empty fillers.

Pauses were most frequently used by both groups but slightly more so by the control subjects which contradicts findings by Von Bentheim who found that the experimental subjects used more pauses although no significant difference was noted statistically. Though not documented in this study, the length of pauses is thought to potentially vary between groups. S4 and S8, classified as individuals with moderate aphasia, made use of longer pauses in all their narratives.

Empty fillers included words or phrases which are devoid of any substantial meaning. Ritual utterances were included in the calculation of this feature. Labov (1977) defines ritual utterances as inexpressive utterances which are particular to a culture and which play an evaluative role. The ritual utterances cited below could be viewed as universal ritual utterances. These are:

- Mo croire

*I think*

- To compren

*You understand*

- Enfin

*Well*

- Oui, Wein, Weye

*Yes* (different morphological forms of this word exist in Mauritian Creole which when employed at the beginning or end of a narrative do not carry meaning)

- 'Ein'

'Ein' is frequently employed in Mauritian discourse and it is proposed that it helps in maintaining a full verbal channel

- 'Be'

*So or well* (defined as a pause marker in Baker (1972))

- Kuma dir

*Like*

The control subjects produced a greater use of empty fillers than the experimental subjects. It is thought that empty fillers while being devoid of meaning are employed by the subjects to maintain fluency in their verbal output. This feature appears to help in maintaining fluency across narratives. Therefore, empty fillers can fulfil the role of a cohesive device linking ideas so as to keep the fluency as well as filling silences that could disrupt the free flow of a narrative.

It is proposed by the researcher that in the Mauritian culture, the speakers have a tendency to favour the maintenance of a full verbal channel, that is the fluency of a conversation or discourse. This suggestion stems from the observation that the control subjects demonstrated enhanced use of empty fillers in their speech. Ulatowska et al (2000b: 9) noted that 'some cultures may hold certain prerequisites for level of fluency which is conducive to the use of repetition'. Moreover, Tannen (1989 cited in Ualtowska 2000b: 9) said that 'certain groups of African Americans employ a high-involvement style of interaction, in which speakers value maintenance of a full verbal channel'. The results of the present study seem to indicate that empty fillers are fulfilling the role of fluency maintenance in the discourse of Mauritians in the Creole language. A study by Ogilvy et al (2001) on Cape Coloured Afrikaans speakers found that this group also employed fillers in the form of ritual utterances. Ogilvy et al (2001) noted that this is indicative of the value of fluency in narrative production.

The difference in use of adaptation features by the two groups highlights the language difficulties experienced by the individuals with aphasia. The high incidence of repetitions for no emphasis of words, sounds, phrases, ideas as well false starts is indicative of the presenting difficulties of persons with mild to moderate aphasia. However, it is interesting to note that they do display the ability to use ritual utterances, a possible discourse characteristic of Mauritian Creole. This ability does not appear to be lost with aphasia but reduced. Therefore, the results would suggest that there is relative preservation of pragmatic ability of these individuals with mild to moderate aphasia.

Considering tasks, the 'Personal Experience' narrative elicited the most adaptation features in both groups. The experimental subjects elicited a greater number of adaptation features than the control subjects. Statistical analysis noted a significant difference between the groups ( $P = .0252$ ) on the use of repetition of phrases on this task. 70% of the subjects were correctly classified using this particular feature.

### 5.7.2 Aphasic adaptation features

Difficulties which usually arise from language impairments of the people with aphasia include word-retrieval problems, semantic and phonological paraphasias as well as circumlocutions (Milroy & Perkins 1992; Larfeuil & Le Dorze 1997). Circumlocutions were excluded from this study as instances of this type of adaptation were not observed in the narratives of any of the subjects. Adaptation features, with the exception of circumlocutions, are tabulated in Table 5.21, representing the performance of the experimental subjects.

*Table 5.21: Incidence of aphasic adaptation features in the experimental group*

	<b>Experimental subjects</b>
<b>Phonological paraphasias</b>	15
<b>Semantic paraphasias</b>	5
<b>Word finding difficulty</b>	23
<b>Total</b>	<b>43</b>

Experimental subjects produced phonological paraphasias, semantic paraphasias and word finding difficulties as shown in Table 5.21 above. These were not observed in the narratives of the control group. However, there was evidence of word finding difficulties.

- **Task effects**

The 'Fable' produced the most adaptation features from the experimental group. The story retell is probably problematic for the experimental subjects as this task calls for retrieval of the story elements from memory and formulating these events in an

organised fashion. The increased load on linguistic and cognitive faculties could lead to a disruption in verbal output. Differences between groups are noted on ‘Apple Theft’ and ‘Personal Experience’ tasks but to a lesser extent than the ‘Fable’. Finally, the ‘Single Pictures’ stimuli did not show any differences between the groups.

### **5.7.3 Use of repetition for effect**

This feature has been documented in the Labov Evaluation Analysis in Tables 5.5 and 5.6 in Section 5.4. Repetition has a variety of structural and functional manifestations dependent upon context specificity, form and time (Ulatowska et al 2000b). In discourse, repetition has the potential to contribute to the overall cohesion of the discourse, to the evaluation of information and paradoxically, to the establishment of background information or theme against which new information is introduced (Halliday & Hasan 1976; Labov 1972; Tannen 1989 cited in Ulatowska et al 2000b). Moreover, Ulatowska et al (2000b) noted that repetition can be used both as an ethnic style and as a compensation for aphasia.

Ulatowska et al (2000b) also found repetitions for effect to be prevalent in the ‘Personal Experience’ narrative. According to Ulatowska et al (1983), this task is considered to be the closest to spontaneously produced discourse and postulated that marked differences would be apparent. When narrating a personal experience, the speakers were required to relate a frightening event. Labov (1972 cited in Ulatowska et al 2000b) noted that such topics can potentially yield natural, unmonitored language due to their highly emotive content.

The examples below illustrate the use of repetition for effect by the experimental subjects in the present study.

Example I:

S1

‘Stroke experience’

‘Kan mo ti gagne conzestion, mo ti bien per. Letan moi, mone lever, mmm extra mone gagne per. Kan pren moi al lopital, mon al lopital, monn... Kan in al laba,

docter in dire mon gagne conzestion. Pa p cav marser. Boucou mon per. Mon dire"sa v dire in fini pu moi". Mo... mo pa ti p cav marser ( )'

*'When I had the stroke, I was really scared. When I, I woke up, mmm I was very scared. When took me to hospital, I went to the hospital, I... When I got there, doctor said I got a stroke. Couldn't walk. Really I was scared. I said "this means it's over for me". I ... I couldn't walk ( )'*

Example II:

S2

'Near drowning experience'

( ) b moi, mon pren li, pousse li, mon met li endan. Li pan gagne lipie. Li pan gagne profundere ... ala ler li comense vine, couma dire lin perdi profundere, ki line fer? Line trape moi. Li sere moi bien. Mossi mon couma dire, mo pan capaw..naze la. Nu ti capav nu mort tul 2 ensam la ... ( )'

*( ) So me, I took him, pushed him, I put him under. His feet couldn't touch the ground. He was out of depth ... so when he became, like he was out of depth, what did he do? He grabbed me. He grabbed me real hard. I was also like I couldn't swim. We could have died both of us ... ( )'*

Example III:

S5

'Stroke experience'

( ) Mo pa ti croire si mon gagne atak moi. Mo pa ti cone si mon gagne atak moi. Mo senti moi couma dire paralyser. B selamn moi mo dire mo mo mo pan,meme ziska aster, mo pa dire ki mon paralyser ( ). Mo pa mo pa dire sipa mo paralyser. Mo croyance dire moi mo pan, meme ziska aster la, mo dire moi, mo pan paralyser.'

*( ) I did not want to believe that I had a stroke. I didn't know that I had a stroke. I felt like I was paralysed. But I don't say I I don't, even now, I don't*

*say that I am paralysed ( ) But really I never say that I am paralysed. My belief tells me, even now I tell myself, I am not paralysed ( )*

Example IV:

S6

'Stroke experience'

*' ( ) Mo ti bien sagrin sa zour la, sagrin, sagrin, sagrin. Mo ti sagrin, sagrin. Mo pan dire personne. Mon garde tou pu moi. Mo ti extra sagrin ( )'*

*' ( ) I was so sad on that day, sad, sad, sad. I was sad, sad. I never told anybody. I kept everything to myself. I was very sad ( )*

**Note:** Repetition for effect instances have been underlined.

The use of repetition for effect is enhanced when the subjects narrated their 'stroke experiences'. S2 employed this feature in his narrative on a 'near drowning experience' but to a lesser extent than in the other examples. The stroke experience is obviously a frightening experience for these subjects and their emotions are translated in their use of repetition to express this feeling of fear or sadness to the listener.

These findings support Ulatowska et al (2000b) who claim that the repetitions relate to information that contributes to the feeling of fear brought about by the particular situation narrated. Ulatowska et al (2000b: 22) highlighted that the repetitions consist mainly of the narrator's reactions to the event and also added that the 'narratives of the participants are inherently autobiographical, one might expect an increased use of repetition to comment on the speaker/experiencer's internal perception of the event'. The control group's narratives also depicted this tendency as illustrated in the following examples:

Example V:

C2

'Coming back late at night'

'... Weye ... mo p sorte cinema. Mo p vin lacaz. B ... avan gagne nu lacaz, divan nu la porte, ti ena pie banane ... faille sec, la briz p taper. Feille la p bouze li ummm ... capav minuit, capav 1 ere di amtin oussi, mo p rente lacaz. Aster mo trouve feille la coume dire p letem ... la briz p vacarne. Li p bouze bouze li. Moi mon per, couma dire mon pense di, couma dire ena kiken p assizer ... mo pren patience ... mo al kot. Mo coster avec cot sa pie la. Mo guete bien. B pa pena auakine dimoune. Pie banane euh faille sec ki p bouzer ( )'

*'... Yeah... I'm coming back from a movie. I am coming home. Well... before the house, in front of the door, there's a banana tree... Dried leaves, the wind's blowing. The leaves moving ummm... could be midnight, could be 1 o'clock in the morning also, I am coming home. Now, I see leaves like when ... the wind's blowing. It's moving moving. I I got scared, like I thought like there's somebody sitting .... Courageously I went, I went nearer to the tree. I looked well. Well there was nobody, the banana uh the leaves were moving about ( )'*

Example VI:

C3

'When I was ill ...'

' ( ) Mo mo zistoire letan mo ti malade. Mo pa ti per, dan 1 momem, mo ti amen sa couma 1 joke. Plis finalmen, mon, sa in vin, mon per finalmen. Mo ti per aprski pa ti cone ki ete sa. Kifer mo ti per parski premierement mo ti penser 1 ti zafer ... letan mo al guete dokter. Mo ti al guete 1 dokter particulier deor. Kan mo al guete li, li dire moi 'mo ap pu cav efr narien pu ou, ou bizin al lopital' ... lerla mon per, xtra per tan line dire moi sa ( . )'

*'( ) My my story when I was sick. I was not scared, one moment, I took it as a joke. But finally, I, it became, I got scared finally. I was scared because, didn't know what it was. Why was I scared because firstly I thought it was nothing ... When I went to see the doctor, I went to see a specialist. When I went to see him, he said ' I can't do anything for you, you must go to the hospital' ... Then I got scared, really scared when he told me that..( )'*

Interestingly, the narratives of the experimental subjects consisted mainly of their reactions to the event (e.g. I was scared) which mostly reflected the perspective of the narrator. However, considering the examples of the control subjects, it is observed that while the subjects gave their state of fear over the situation, this aspect did not dominate their stories. This supports the results reached by Ulatowska et al (2000b) who noted that when the persons with aphasia employed repetition for effect, it usually made up most of the narrative while this was not often the case among the control participants.

In the present study, the incidence of repetition for effect was enhanced in both groups specifically on the 'Personal Experience' task. The experimental group recorded a higher incidence of this feature compared to the control group thus supporting the suggestion that repetition for effect could possibly be employed as a compensatory strategy by the experimental subjects to support their verbal output. However, the use of repetition for effect among the control subjects also would suggest that this is a discourse characteristic feature of Mauritian Creole.

#### **5.7.4 Lexical borrowing**

Considering the multitude of languages spoken in the island, the presence of lexical borrowing in Mauritian discourse would not be considered surprising. It is possible that inhabitants from a country with a multilingual tradition have linguistic flexibility as a resource, which theoretically be brought into play after neurological insult. The incidence of this feature in the experimental group and the control group is illustrated in Table 5.22.

*Table 5.22: Incidence of lexical borrowing in the experimental and control groups*

	<b>Experimental group</b>	<b>Control group</b>
<b>Incidence</b>	14	34

As can be seen in Table 5.22, the control subjects scored a higher incidence of lexical borrowing compared to the experimental subjects. This is in disagreement with the

findings of a study carried out by Ogilvy et al (2001) who reported that the experimental subjects employed more loan words than the control subjects. While lexical borrowing could have been an adaptation feature used by the individuals with aphasia in an attempt to overcome word finding difficulties, no such conclusion could be reached for the present study. However, within the present study, the Paradis questionnaire showed that all the subjects were not multilingual.

The questionnaire also provided important information regarding language use in different situations. Considering the subjects, S6 and S9 showed a higher incidence of lexical borrowing compared to the other experimental subjects. In the control group, C7 and C8 received higher scores on this feature compared to the other control subjects. S9, C7 and C8 employed French extensively at the workplace while S6 noted that she spoke French when she addresses her grandchildren. The frequent use of French besides Creole together with the degree of formality mentioned above could have elicited their higher scores in lexical borrowing compared to the other subjects.

However, it is felt that the potential use of lexical borrowing as a compensatory strategy should be carefully considered. The multitude of languages spoken in Mauritius provide the person with aphasia with the option of using another language if possible when faced with a word finding difficulty. Interestingly, the 'Personal Experience' narratives elicited the highest incidence of lexical borrowing in both groups. This task, being a personal story and not prompted through visual or written stimuli, has the potential of eliciting natural language specific to the Mauritian culture. Therefore, the incidence of this feature on this task could probably suggest that lexical borrowing is an inherent feature of Mauritian discourse.

Table 5.23 provides a list of the lexical borrowing instances from the narratives of the subjects:

Table 5.23: List of lexical borrowing instances

English	French	Oriental Languages (Hindi, Bhojpuri & Urdu)
Joke	Effraye <i>Scared</i>	Beti <i>Girl</i>
Maximum	Regarde <i>To see</i>	
Business	Degringole <i>To tumble down</i>	
Fence	Une partie de peche <i>A fishing trip</i>	
	Cueille une fleur <i>To pick a flower</i>	
	Relatif <i>Relatively</i>	
	Prevenir <i>To warn</i>	
	Bredouille <i>To go empty handed</i>	
	Apercevoir <i>To notice</i>	
	Demoiselle <i>Miss</i>	
	Sur le lieu <i>On the spot</i>	
	L'interieure de moi-meme <i>My gut feeling</i>	
	Monsieur <i>Sir</i>	

Mauritian Creole is defined as 'French based', meaning that it has its lexical root in French (Bunwaree 1994, Virahsawmy 1991). Therefore, it was expected that lexical borrowing would be mainly from the standard French language which was found to be the case for the present study. With contact with the other languages spoken on the island, multiple source borrowing from English and Indian languages is common

(Baker 1972, Virahsawmy 1991). From the list above, lexical borrowing from these languages have also been recorded.

The lexical borrowing from French especially is believed to be mostly due to the prestige attributed to the French language and the prejudice attached to the Creole language in formal settings. The subjects were aware that the tasks were for the benefit of research at a university level as explained on their consent forms and this may possibly have rendered the situation a degree of formality despite the instructions and complete interaction between the researcher and the subject in Creole as from the very beginning. The examples below are in support of this suggestion:

S1

'Be garson la p effraye, p per li oussi'

*'But the boy was scared (French), was scared (Creole) also'*

C2

'Sa meme li p regarde. Enfin, li p guete'

*'So, he is looking (French). Well, he is looking (Creole)'*

The two examples above showed that the subjects gave the word in the two languages with French taking precedence over Creole. In other instances where lexical borrowing from French occurred, the standard French words were employed without any inference to the Creole equivalent. The testing situation may have unfortunately triggered a formal situation, a setting conducive to the use of European or Indian languages as mentioned in Chapter 3.

### **5.7.5 Direct speech**

One way of telling a story is to use actual dialogue or direct speech rather than complex embedded constructions (Berko-Gleason et al 1980). Romaine (1997) stipulated that little is known about the cross cultural differences in the norms for the use of direct speech in narrative production. This feature was included in the present

study as it was believed that direct speech could be potentially employed by the experimental subjects as an adaptation strategy so as to counteract complex verb forms (e.g. passive voice). Table 5.24 provides the incidence of direct speech in the experimental group and the control group.

*Table 5.24: Incidence of direct speech in the experimental and control group*

	<b>Experimental group</b>	<b>Control group</b>
<b>Incidence</b>	14	16

As illustrated in Table 5.24, the experimental subjects employed direct speech as much as the control subjects. The 'Personal Experience' narratives elicited the highest incidence of direct speech in both groups. It is proposed that direct speech provides an easier and more interesting mode of putting a message across especially when an individual is narrating a story and therefore, is common in both groups. The inclusion of direct speech in the narrative makes it more interesting and worth hearing and within the direct speech, the suprasegmental features (e.g. intonation pattern) are included. That is the listener has a first hand narration of how the event actually happened.

However, the use of direct speech as a compensatory strategy is not discounted as it is observed that most of the experimental subjects made use of this feature while this was not the case for the control subjects. In the control group, C7 made a significant contribution to this feature while in the experimental group, the final score on direct speech was distributed across all the subjects.

#### **5.7.6 Discourse characteristics of Mauritian Creole**

The use of the term 'discourse ethnic marker' in this study is questionable. In the present context, it appears to mean that the discourse markers are ethnic to Mauritian Creole. However, in Mauritius, ethnicity is linked to religion, culture and language (Bunwaree 1994). The Creole language is spoken by most Mauritians irrespective of ethnic groups, hence, it is referred as the national language. The Eastern languages

spoken by the inhabitants are known as languages of ethnic identity (Virahsawmy 1991). As Lehembre (1994) (in Bunwaree 1994) stated, the Mauritian identity is an obscure notion as the sense of identity in Mauritius is mainly based on the person's culture, religion and language spoken.

This section includes the discourse markers thought to be particular to Mauritian discourse. Labov (1977) defined a ritual utterance as an inexpressive utterance which does not carry meaning. However, there are words that are repeatedly used in Mauritian discourse that have a function, e.g. attention getter. They are referred as discourse ethnic markers in the present study and the incidence of these features are recorded in Table 5.25 for the experimental and control groups.

*Table 5.25: Incidence of discourse ethnic markers in the experimental and control groups*

	<b>Experimental group</b>	<b>Control Group</b>
<b>Incidence</b>	76	114

As can be seen in Table 5.25, the control subjects employed more discourse ethnic markers than the experimental subjects.. It is proposed that discourse ethnic markers are employed in Mauritian discourse as they serve as a way to maintain a full verbal channel. That the individuals with aphasia also employed this feature in their narratives, albeit to a lesser degree than the control subjects, may imply that this ability is not lost with aphasia but reduced.

The ethnic discourse markers noted in the control and experimental subjects' discourse samples are cited below:

- Use of 'soz' which translates into 'that thing'. Baker (1972) refers to 'soz' as the multi-purpose word as it fulfils four separate but related functions:
  1. as an attention getter
  2. as an appellation tag

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  1. as an attention getter
  2. as an appellation tag

3. as 'a slot-filler', a term to replace any noun phrase, verb, adjectival or adverbial which cannot at that moment be recalled (Baker 1972: 143)
  4. as a warning that a non-Creole term is about to be employed.
- Use of 'no' or 'yes' at the end of sentences, phrases or words in a bid to get the approval of listener on what was said.

In addition, a number of features characterising Mauritian discourse have been previously noted by Virahsawmy (1991), Baker (1972) and Stein (1982). Instances of discourse markers specific to the Mauritian culture found in the present study have been listed below:

- Idiomatic Creole expressions

Virahsawmy (1991) noted that Mauritian Creole abounds in idiomatic expressions. Two have been noted from the stories:

#### C7

#### Personal Experience

'Be lontem, kuma nu uh kum si coze kom inpe lontem mo bisin dir letem margoz'

*'Well long ago, like we uh like we say some time in the past, I have to say the time of margoz'*

Margoz is a vegetable readily available in Mauritius. This phrase refers to 'a long time ago'

#### C3

#### Apple Theft

'... Tuzur ban zenfan, zot ena ban tenance inpe gurman lizie gro...'

*'... As always, the children, they tend to be greedy, big eyes ...'*

‘Lizie gro’ translated literally as ‘big eyes’. This expression refers to a greedy person

- Double negation

S2

Crocodile Attack

‘... na pa requin...’  
‘... (no) not a shark ...’

Personal Experience

‘... mo na pa capave naze ...’  
‘... I could(no) not swim ...’

C5

Personal Experience

‘... Mo mama na pa conne lire ...’  
‘... My mother did (no) not know how to read ...’

Stein (1982) refers to this form of negation as archaic but noted that it is still used on the island. It is thought to be common amongst old people and people living in rural areas

- Imperative sentence : The use of ‘do’ at the end of a sentence

S5

Apple Theft

‘... Apre sa lin ouver do ...’  
‘... After that, it opened (do) ...’

Virahsawmy (1991) noted that harsh commands are usually toned down by 'do' a marker of politeness. In this instance, S5 was irritated because he could not remember the end of the story and ended his narrative as such. It is believed that the term 'do' could be employed when trying to make a point about an issue.

- Simple sentences with redundant pronouns

S2

Personal Experience

'... Ene ban camarade meme ladan (li) pa conne naze ...'

'... *One of my friends (he) doesn't know how to swim ...*'

C3

Apple Theft

'... Tuzur ban zenfan, (zot) ena ban tenance inpe gurman lizie gro...'

'... *As always, the children (they) tend to be greedy, big eyes ...*'

'... Alor ein de camarade (zot) p marse marse dan la ri ...'

'... *So umm two friends(they) are walking walking on the street ...*'

Virahsawmy (1991: 18) mentioned that a characteristic of Mauritian Creole speakers in normal discourse is to place a redundant pronoun between the noun phrase and the verb phrase. The examples above illustrate this point.

- Verb reduplication

S2

The Fall

'... Kitfoi zot marse marse ...'

‘ ... *Maybe they walking walking ...* ’

C3

Apple Theft

‘ ... Alor ein de camarade zot p marse marse dan la ri ... ’

‘ ... *So umm two friends they are walking walking on the street ...* ’

The verb ‘to walk’ has been reduplicated to produce a new meaning. When verbs are reduplicated, they suggest laxity, absence of purpose or a leisurely conduct.

- Exclamatory words

S5

Personal Experience

‘ ... Be selmen ptchik! Mo pa dir sipa mon paralyse ... ’

‘ ... *But ptchik! I don't say that I am paralysed ...* ’

S10

Personal Experience

‘ ... Mo dir bez sa! ptchik! ... ’

‘ ... *I'm telling you bez sa! ptchik! ...* ’

‘Ptchik!’ and ‘Bez sa!’ are employed to express of frustration, annoyance or disagreement. Virahsawmy (1991) mentioned their existence in Mauritian Creole but has not listed them.

Both the experimental subjects and the control subjects employed these characteristics of Mauritian Creole. It is proposed that the presence of these discourse markers in the narratives of the experimental subjects indicates a preservation of the pragmatic ability of the individuals with aphasia.

### **5.7.7 Pragmatic competence**

Prutting and Kirchner (1987) noted that the pragmatic aspects of language are related to the level of social competence, which is based on the ability of the person to function as a productive member of society. Results from various parts of the present study appear to indicate that pragmatic competence is not lost with aphasia but reduced.

Mauritian Creole seems to display frequent use of direct speech, lexical borrowing and fillers (e.g. ritual utterances). It thus appears that the Creole speakers in Mauritius represents an example of a high involvement culture. This depicts the value attributed to fluency and a full verbal channel in narrative production. Furthermore, these features are employed by both the control and experimental subjects which suggests that the pragmatic ability of the individuals with aphasia is still preserved following their stroke.

Several researchers have reported the preserved pragmatic competence of individuals with aphasia (Penn 1999). Wilcox (1983), Penn (1988), Menn, Reilly, Hayashi, Kamlo, Fujita & Sasanuma (1998) in Penn (1999) noted that the individual with aphasia may show significant linguistic impairment but can exhibit intact world knowledge as well as a good awareness of social skills. Despite their linguistic deficits, there is much scope for communication success for the individuals with aphasia. As Holland (1982) noted, aphasics demonstrate more communicative success than they do communicative failure. By using discourse analysis, the relative preservation of pragmatics is revealed and thus, clinicians can focus on what the person with aphasia can do instead of what they are unable to do.

Chapter 5 concludes with a summary of the various findings of the present study presented in Table 5.26 which follows:

## 5.8 Summary

Table 5.26: Summary of findings of the present study:

Tasks	Results
Ratio of WC:PU	The experimental subjects employed more words to put across their message resulting in higher ratios compared to the control subjects
Quality analysis	The control subjects reached higher scores than the experimental subjects. However, the latter showed preserved global structure, temporal sequence and referencing. Their narratives lacked coherence and clarity.
Main ideas & lessons	The experimental subjects provided mainly concrete responses showing a tendency to adhere to explicitly stated material instead of generalising.
Analysis of evaluation	The experimental subjects generally employed less evaluation devices. This group mainly used repetition for effect while the control subjects made extensive use of ritual utterances in their narratives.
Task effects	All tasks were found to be culturally and linguistically sensitive. The 'Fable' seemed to be the most effective one in not only investigating the abilities of the participants but also, in differentiating between the control and experimental groups.

Tasks	Results
Idiomatic Creole expressions	While the experimental subjects showed the ability to convey abstract information, they tended to use more words as well as situational examples rather than providing explicit interpretations to the idiomatic Creole expressions as was the case with the control subjects.
Adaptation features	<ul style="list-style-type: none"> <li>• The adults with aphasia made extensive use of general as well as aphasic adaptation features which is a reflection of their language difficulty. However, a high incidence of empty fillers was reported in the control group.</li> <li>• Repetition for effect was found to be a useful compensation strategy in the aphasia group in an attempt to maintain a good organisation of discourse.</li> <li>• Lexical borrowing especially from the French language, was used extensively by the control group while direct speech was employed as much by the experimental subjects as the control subjects.</li> </ul>
Discourse characteristics of Mauritian Creole	Both groups used these characteristics in their discourse. However, a lower incidence was noted in the experimental group compared to the control group.

Chapter 6 provides the concluding remarks of this study and the implications for future research.

## **CHAPTER 6**

### **CONCLUSIONS**

This study set out to characterise the discourse performance of Creole speaking Mauritian persons with mild to moderate aphasia and Creole speaking Mauritian people with no known neurological impairment on a test battery of discourse tasks devised by Ulatowska et al (1998). Adaptation features and Mauritian discourse characteristics were documented together with an investigation of the differences in the interpretation of idiomatic Creole expressions between experimental and control subjects. In addition, the appropriacy of the battery for the Mauritian context was examined.

In this study, individuals with mild to moderate aphasia demonstrated the ability to produce narrative discourse with relative preservation of global structure, temporal sequence and referencing ability. Relative preservation of pragmatic competence was revealed in terms of good interpretation of idiomatic Creole expressions. Furthermore, they employed culturally and linguistically appropriate Mauritian discourse characteristics such as the use of attention getters (e.g. *soz*), idiomatic Creole expressions, double negation, imperative sentence constructions with the inclusion of 'do', simple sentences with redundant pronouns, verb reduplication and certain exclamatory words. Whether these features are preserved in persons with severe aphasia still needs to be investigated.

The persons with aphasia employed more words to convey their message compared to the control subjects. This aspect was more evident when they had to produce language in situations where they faced abstract information. In their interpretation of idiomatic Creole expressions, a relatively high incidence of the use of adaptation strategies was revealed. Some of the experimental subjects noted that 'they know but cannot explain!' The aphasia-associated difficulties in discourse were thus found to

be a reflection of the difficulty experienced by these individuals at the level of language more specifically.

The Ulatowska et al (1998) battery proved to be clinically useful and culturally appropriate. The inclusion of various narrative tasks and stimuli places different structural, cognitive and linguistic demands on the subject. Of all the tasks in the battery, the 'Fable' appears to be the task that highlights the difficulties experienced by the individuals with aphasia. The 'Personal Experience' task allowed the elicitation of culturally rich Mauritian Creole language.

The effect of education level reached was noted on the generation of a story with adequate global structure and referencing ability. This aspect was evident in tasks involving pictures (e.g. Single Pictures stimuli) whereby the subjects with a low education level in the control group found these tasks to be problematic. This effect was not noted in the experimental group as it is proposed that the effect of education was masked by the effect of aphasia.

Variation in performance was noted within the experimental group. The subjects with mild aphasia displayed better performance than the subjects presenting with a moderate degree of aphasia. This was clearly demonstrated in their use of evaluative devices, completeness and accuracy on the 'Fable', and better global structure, suspense and coherence on the story generation task. The subjects with mild aphasia also tended to produce lengthier narratives with more propositional units. The findings of the subjects with mild aphasia and those with moderate aphasia supports the degree of severity identified using the Western Aphasia Battery.

Statistical analyses in the present study attempted to classify the subjects in an experimental group and a control group on the basis of their scores obtained on the different tasks. 80% of the subjects were correctly assigned to their respective groups. That is, two subjects from the experimental group reached similar scores to those from the control group and vice versa. These two subjects from the experimental group were classified as persons with mild aphasia. The two subjects from the control group who were classified in the experimental group according to

statistical analysis had a lower education level compared to the other subjects in this group.

The present study forms part of a major collaborative project including Von Bentheim (2000), Venter (2000), Ulatowska (1998) and Ogilvy et al (2001). Similarities in the findings of this study to the above mentioned studies are as follows:

- The experimental subjects employed more words to put across their message and they performed poorer than the control subjects on quality and evaluation analyses.
- The individuals with aphasia showed more difficulty in their interpretation of abstract information. They displayed a tendency to adhere to explicitly stated material instead of generalising.
- The experimental subjects made extensive use of adaptation features which was found to disrupt the coherence and clarity of their discourse. Repetition for effect was found to play a major role as a compensatory strategy and it indeed contributed towards the suspense in the narratives of both groups.
- Finally, the Ulatowska et al (1998) battery elicited natural language from the subjects and all the tasks were found to be culturally and linguistically appropriate.

The findings from this study which differed from the findings of the above mentioned studies are listed below:

- Lexical borrowing and direct speech was not found to be a compensatory strategy in the present study but rather as an inherent feature of Mauritian discourse. The socio political implications associated with language use in Mauritius make it difficult to draw such conclusions as lexical borrowing is thought to be motivated by the prestige linked to the use of formal languages rather than using Creole language in a formal situation.
- The experimental subjects' interpretations of abstract information consisted of a high incidence of adaptation features not evident in their narratives.

- Finally, the interlocutor issue is pinpointed as the tester was of the same cultural group as the subjects allowing a better appraisal of their narratives keeping in mind a cultural framework towards the assessment of patients.

The limitations of the study are recognised. A larger sample size is required in order to systematically examine the trends which appear to exist. In addition, a more homogeneous group in terms of education level, language history and degree of aphasia is important to allow for definitive conclusions to be reached.

The theoretical considerations of this study are thought to be firstly that there is the need to investigate culturally and linguistically appropriate tools in the assessment of persons with neurological insult in multicultural contexts. In addition, the Ulatowska et al (1998) Discourse Test Battery highlighted the difficulties experienced by the persons with mild to moderate aphasia when producing language. They showed a tendency to generalise information and find abstract information problematic as evident in the pronounced use of adaptation strategies in their interpretation of idiomatic Creole expressions.

In addition, inadequate use of cohesive ties affects the well formedness of their discourse, hence affecting coherence. In the analysis of evaluation, the experimental subjects employed repetition for effect to a larger extent compared to the control subjects. Repetitions constituted the bulk of their discourse and appear to be a useful compensatory strategy for these individuals. While ritual utterances were employed by both groups, they were used mostly by the control subjects which suggest that this feature acts as a means to maintain a full verbal channel in Mauritian discourse.

The Discourse Battery also elicited culturally rich language as evident in the 'Personal Experience' narratives. Moreover, the impact of emotion on narration has been highlighted in the present study. Most of the experimental subjects narrated their 'Stroke experience' and it was found that emotion caused verbal disruptions which in turn affected coherence.

Numerous clinical implications emerged from this study. The Ulatowska et al (1998) Discourse Test Battery holds much promise for the assessment of people following

any kind of neurological insult in Mauritius as it is a linguistically and culturally appropriate tool. It is an inexpensive battery which can be altered to adapt to a particular socio-cultural group.

An important clinical implication of this study is believed to be the need to recognise the necessity of assessing and managing persons with mild to moderate aphasia. Generally, they are often discharged from therapy based on their performance on standardised tests. This is exacerbated in the Mauritian context where there are limited resources for speech-language therapy. Currently, mostly persons with severe aphasia receive speech-language intervention. Persons with mild to moderate aphasia return to work where higher-level skills are required of them such as connected speech, reading or writing. The present study highlights their disability when they are faced with tasks requiring higher order cognitive and linguistic processing.

The relative preservation of pragmatic skills in people with aphasia has been pinpointed. This aspect can be exploited in therapy to improve these individuals' competence in their natural environment. In addition, compensatory strategies such as repetition for effect should be supported in therapy to maintain a full verbal channel characteristic of Mauritian Creole. Lexical borrowing and direct speech should be further investigated in homogeneous groups to assess their use as compensatory strategies. Furthermore, production of coherent texts relies on adequate use of cohesive ties in discourse and this aspect needs to be considered in therapy. Interpretation of abstract information should be ideally be included in the assessment and management of people with mild aphasia especially as they are proficient in their narratives but have marked difficulty producing overt language when faced with abstract information.

Moreover, stroke is a common occurrence amongst young as well as older people. The younger population is employed and is still engaged in an active lifestyle. It is thus important to improve their ability to interact effectively in social circumstances and facilitate their return to work. With the use of discourse assessment, communication deficits, which are not always tapped on the traditional standardised tests, are highlighted. Hence, a more focused and appropriate intervention procedure can be undertaken.

Finally, future research considerations are noted. Further research should be directed towards the various socio-linguistic groups in the population of Mauritius. In turn, it is also necessary to gain fundamental knowledge on the normal communicative behaviours of the diverse ethnic groups present on the island to bring out the characteristics of Mauritian discourse on a larger scale. Moreover, considering the multilingual nature of the Mauritian population, studies embracing bilingualism and multi-lingualism are required.

Research is necessary to verify the trends revealed in the current study and therefore, a larger sample size is warranted. A more homogeneous group in terms of language history, education level and degree of aphasia is also needed so that definitive generalisations on the performance of the subjects on discourse may be proposed.

## **BIBLIOGRAPHY**

Armstrong, E.M. (1991). The potential of cohesion analysis in the analysis and treatment of aphasic discourse. **Clinical Phonetics and Linguistics**, 5 (1), 39-51.

Armstrong, E. (2000). Aphasic discourse analysis: The story so far. **Aphasiology**, 14 (9), 875-892.

Baker P. (1972). **Kreol: A Description of Mauritian Creole**. London, C. Hurst & Company.

Battle D.E. (2000). Educating speech-language pathologists to work with multicultural populations. **2<sup>nd</sup> International Symposium on Communication Disorders in Multilingual Populations**, Kwa Maritane, Pilanesburg National Park, South Africa, 18<sup>th</sup> – 21<sup>st</sup> of July 2000.

Berko-Gleason J., Goodglass H., Obler L., Green E., Hyde M.R. & Weintraub S. (1980). Narrative strategies of aphasic and normal – speaking subjects. **Journal of Speech and Hearing Research**, 23, 370-382.

Bird K.R. & Vetter K.D. (1994). Storytelling in Chippewa-Cree children. **Journal of Speech and Hearing Research**, 37, 1354-1368.

Bloom R.L., Borod J.C., Obler L.K. & Gerstman L.J. (1993). Suppression and facilitation of pragmatic performance: Effects of emotional content on discourse following right and left brain damage. **Journal of Speech and Hearing Research**, 36, 1227-1235.

Boles L. (1998). Conversational Discourse Analysis as a Method for Evaluating Progress in Aphasia: A case report. **Journal of Communication Disorders**, 31 (3), 261-274.

Brenneise-Sarshad R., Nicholas L.E. & Brookshire R.H. (1991). Effects of apparent listener knowledge and picture stimuli on aphasic and non-brain-damaged speakers' narrative discourse. **Journal of Speech and Hearing Research**, 34, 168-176.

Brookshire R.H. & Nicholas L.E. (1984). Comprehension of directly and indirectly stated main ideas and details in discourse by brain-damaged and non-brain-damaged listeners. **Brain and Language**, 21, 21-36.

Bunwaree S. (1994). **Mauritian Education in a Global Economy**. Editions de L'Ocean Indien, Stanley, Rose Hill.

Busch C.R., Brookshire R.H. & Nicholas L.E. (1988). Referential communication by aphasic and nonaphasic adults. **Journal of Speech and Hearing Disorders**, 53, 475-482.

Caplan D. (1996). **Language: Structure, Processing and Disorders**. A Bradford Book, the MIT Press, Cambridge, Massachusetts, London, England.

Chapman S.B. & Ulatowska H.K. (1989). Discourse in aphasia: Integration deficits in processing reference. **Brain and Language**, 36, 651-668.

Chapman S.B., Ulatowska H.K., Franklin L.R., Shobe A.E., Thompson J.L. & McIntire D.D. (1997). Proverb interpretation in fluent aphasia and Alzheimer's disease: Implications beyond abstract thinking. **Aphasiology**, 11 (4/5), 337-350.

Chapey R. (1986). **Language Intervention Strategies in Adult Aphasia**. 2<sup>nd</sup> edition, Williams and Wilkins.

Correia L., Brookshire R.H. & Nicholas L.E. (1990). Aphasics and non-brain damaged adults' descriptions of aphasia test pictures and gender-based pictures. **Journal of Speech and Hearing Disorders**, 55, 713-720.

Cortazzi M., Jin L., Wall D. & Cavendish S. (2001). **Sharing Learning Through Narrative Communication**. Dept of Education, Brunel University, 300 St Margaret's Rd, Twickenham, Middlesex TW1 1PT, University of Leicester.

Craig H.K., Hinckley J.J., Winkelseth M., Carry L., Walley J., Bardach L., Higman B., Hilfinger P., Schall C. & Schiemo D. (1993). Quantifying connected speech samples of adults with chronic aphasia. **Aphasiology**, 7 (2), 155-163.

Crary M.A. & Rothi L.J. (1989). Predicting the western aphasia-battery aphasia quotient. **Journal of Speech and Hearing Disorders**, 54, 163-166.

Cucchiari C. (1995). Assessing transcription agreement: Methodological aspects. **Clinical Phonetics and Linguistics**, 130-153.

Damico J.S., Simmons-Mackie N., Oelschlaeger M., Elman R. & Armstrong E. (1999). Qualitative methods in aphasia research: Basic issues. **Aphasiology**, 13.(9-11), 651-665.

Ernest-Baron C.R., Brookshire R.H. & Nicholas L.E. (1987). Story structure and retelling of narratives by aphasic and non-brain-damaged adults. **Journal of Speech and Hearing Research**, 30, 44-49.

Doyle P.J., McNeil M.R., Spencer K.A., Goda A.J., Cottrell K. & Lustig A.P. (1998). The effects of concurrent picture presentations on retelling of orally presented stories by adults with aphasia. **Aphasiology**, 2 (7/8), 561-574.

Giles E., Patterson K. & Hodges J.R. (1996). Performance on the Boston Cookie Theft picture description task in patients with early dementia of the Alzheimer's type: missing information. **Aphasiology**, 10.(4), 395-408.

Glosser G., Wiener M. & Kaplan E. (1988). Variations in aphasic language behaviours. **Journal of Speech and Hearing Disorders**, 53, 115-124.

Glosser G. & Desler T. (1990). Patterns of discourse production among neurological patients with fluent language disorders. **Brain and Language**, 40, 67-88.

Grosjean F. (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one person. **Brain and Language**, 40, 67-88.

Hinckley J.J. & Craig H.K. (1992). A comparison of picture-stimulus and conversational elicitation contexts: responses to comments by adults with aphasia. **Aphasiology**, 6 (3), 257-272.

Hoffmann M. & Watts A. (1998). Cognitive impairment in acute and subacute stroke. **8<sup>th</sup> International Aphasia Rehabilitation Conference**, Kwa Maritane, Pilanesburg National Park, South Africa, 26-28 Aug 1998.

Holland A.L. (1982). Observing functional communication of aphasic adults. **Journal of Speech and Hearing Disorders**, 47, 50-56.

Honda R., Mitachi M. & Watamori T.S. (1999). Production of discourse in high-functioning individuals with aphasia- with reference to performance on the Japanese CADL. **Aphasiology**, 13 (6), 475-493.

Hookoomsing V. (1997). **Atlas de Maurice**. MGI, Mauritius & Universite de Bordeaux. Chapter 11, Population.

Hookoomsing V. (2000). Language, Pluralism and Development in Mauritius : the local, the regional and the global perspective. **Conference 2000, Language and Development in Southern Africa, Making the Right Choices**, Namibia 11-13 April 2000.

Hux K., Sanger D., Reid R. & Maschka A. (1997). Discourse analysis procedures: Reliability Issues. **Journal of Communication Disorders**, 30 (2), 133-150.

Kathard H. (2000). Stories lives retell: towards critical research with multicultural/multilingual populations. **2<sup>nd</sup> International Symposium on Communication Disorders in Multilingual Populations**, Kwa Maritane, Pilanesburg National Park, South Africa, 18<sup>th</sup> – 21<sup>st</sup> of July 2000.

Kertesz A. (1982). **Western Aphasia Battery**. The Psychological Corporation, Harcourt Brace Jovanovitch Inc.

Labov W. (1977). **Language In An Inner City: Studies in the Black English Vernacular**. Blackwell Press, Oxford.

Larfeuil C. & Le Dorze G. (1997). An analysis of the word-finding difficulties and of the content of the discourse of recent and chronic aphasic speakers. **Aphasiology**, 11 (8), 783-811.

Lock S. & Armstrong L. (1997). Cohesion analysis of the expository discourse of normal, fluent aphasic and demented adults: a role in differential diagnosis? **Clinical Phonetics and Linguistics**, 11 (4), 299-317.

Mackenzie C. (2000a). The relevance of education and age in the assessment of discourse comprehension. **Clinical phonetics and Linguistics**, 14 (2), 151-161.

Mackenzie C. (2000b). Adult spoken discourse: The influences of age and education. **International Journal of Language and Communication Disorders**, 35 (2), 269-285.

Manochiopinig S., Sheard C., & Reed V.A., (1992). Pragmatic assessment in adult aphasia: a clinical review. **Aphasiology**, 6, 519-533.

Marshall J. (2000). Cultural influences in the identification and habilitation of children with speech and language difficulties. **2<sup>nd</sup> International Symposium on Communication Disorders in Multilingual Populations**, Kwa Maritane, Pilanesburg National Park, South Africa, 18<sup>th</sup> – 21<sup>st</sup> of July 2000.

Menn L., Ramsberger G. & Helm-Estabrooks N. (1994). A linguistic communication measure for aphasic narratives. **Aphasiology**, 8 (4), 343-359.

Merritt D.D. & Liles B.Z. (1989). Narrative analysis: Clinical applications of story generation and story retelling. **Journal of Speech and Hearing Disorders**, 54, 429-438.

Milroy L. & Perkins L. (1992). Repair strategies in aphasic discourse; towards a collaborative model. **Clinical Linguistics and Phonetics**, 6 (1&2), 27-40.

Morris-Friehe M.J. & Sanger D.D. (1992). Language samples using three story elicitation tasks and maturation effects. **Journal of Communication Disorders**, 25, 107-124.

Nicholas L.E. & Brookshire R.H. (1993). A system of quantifying the informativeness and efficiency of the connected speech of adults with aphasia. **Journal of Speech and Hearing Research**, 36, 338-350.

Nicholas L.E. & Brookshire R.H. (1995). Presence, completeness, and accuracy of main concepts in the connected speech of non-brain-damaged adults and adults with aphasia. **Journal of Speech and Hearing Research**, 38, 145-156.

Nippold M.A., Martin S.A. & Erskine B.J. (1988). Proverb comprehension in context: A developmental study with children and adolescents. **Journal of Speech and Hearing Research**, 31, 19-28.

Ogilvy D., Von Bentheim I., Venter A., Ulatowska H., Penn C. (2001). **Discourse, Dialect and Aphasia in the Western Cape**. Unpublished paper. University of Cape Town, University of Witwatersrand and Callier Communication Centre, University of Texas, Dallas.

Paradis M. (1987). **The Assessment of Bilingual Aphasia**. Lawrence Erlbaum Associates Publishers, London.

Penn C. & Beecham R. (1992). Discourse therapy in multilingual aphasia: a case study. **Clinical Linguistics and Phonetics**, 6 (1-2), 11-25.

Penn C. (1992). Management of communication problems. In Fritz V & Penn C (eds). **Stroke: Caring and Coping**. The Natal Witness Printing and Publishing Company, Natal.

Penn C., Jones D. & Joffe V. (1997). Hierarchical discourse therapy: a method for the mild patient. **Aphasiology**, 11 (6), 601-632.

Penn C. (1999). **Pragmatic Assessment and Therapy for Persons with Brain Injury: What Have Clinicians Gleaned in Two Decades**. Department of Speech Pathology and Audiology, University of Witwatersrand, South Africa.

Perkins L., Crisp J. & Walshaw D. (1999). Exploring conversation analysis as an assessment tool for aphasia: The issue of reliability. **Aphasiology**, 13 (4/5), 259-281.

Prutting C.A. & Kirchner D.M. (1987). A clinical appraisal of the pragmatic aspects of language. **Journal of Speech and Hearing disorders**, 52,105-119.

Reyes B.A. (1994). Management of adult neurogenic patients: A multicultural perspective. **Seminars in Speech and Language**, 15 (2), 165-173.

Ripich D.N. & Terrell B.Y. (1988). Patterns of discourse cohesion and coherence in Alzheimer's disease. **Journal of Speech and Hearing Disorders**, 53, 8-15.

Romaine S. (1997). **Bilingualism**. Second edition. Oxford: Blackwell Publishers.

Roth F.P. & Spekman N.J. (1986). Narrative discourse: Spontaneously generated stories of learning-disabled and normally achieving students. **Journal of Speech and Hearing Research**, 51, 8-23.

Shadden B.B. (1997). Discourse behaviours in older adults. **Seminars in Speech and Language**, 18 (2), 143-152.

Sleight C.C. & Prinz P.M. (1985). Use of abstracts, orientations, and codas in narration by language –disordered and non-disordered children. **Journal of Speech and Hearing Research**, 50, 361-371.

Snow P.C., Douglas J.M. & Ponsford J.L. (1995). Discourse assessment following traumatic brain injury: a pilot study examining some demographic and methodological issues. **Aphasiology**, 9 (4), 365-380.

Snow P.C., Douglas J.M. & Ponsford J.L. (1999). Narrative discourse following severe traumatic brain injury: a longitudinal follow-up. **Aphasiology**, 13 (7), 529-551.

Stein P. (1982). **Connaissance et Emploi des Langues a l'Ile Maurice**. Buske, Hamburg.

Taylor O.L. & Clarke M.G. (1994). Culture and communication disorders: A theoretical framework. **Seminars in Speech and Language**, 15 (2), 103-112.

Ulatowska H.K., North A.J. & Macaluso-Haynes S. (1981). Production of narrative and procedural discourse in aphasia. **Brain and Language**, 13, 345-371.

Ulatowska H.K., Freedman- Stern R., Weiss Doyel A., Macaluso-Haynes S. & North A.J. (1983). Production of narrative discourse in aphasia. **Brain and Language**, 19, 317-334.

Ulatowska H.K., Allard L., Reyes B.A., Ford J. & Chapman S. (1992). Short report. Conversational discourse in aphasia. **Aphasiology**, 6 (3), 325-341.

Ulatowska H.K., Olness S.G., Wertz R.T., Thompson J.L., Keebler M.W., Hill C.L. & Auther L.L. (1998). **Narrative Discourse in African-American Aphasics and Normal Controls**. Callier Centre for Communication Disorders, University of Texas at Dallas.

Ulatowska H.K., Olness G.S., Hill C.L., Roberts J. & Keebler M.W. (2000a). **Narrative Repetition of Aphasic African-Americans: The Effects of Aphasia**. Callier Centre for Communication Disorders, University of Texas at Dallas, 1-35.

Ulatowska H.K., Sadowska M., Kadziedlawa D., Kordys J. & Rymarczyk K. (2000b). **Linguistic and Cognitive Aspects of Proverb Processing in Aphasia**. Callier Centre for Communication Disorders, University of Texas at Dallas, 1-46.

Ulatowska H.K., Wertz R.T., Chapman S.B., Hill C.L., Thompson J.L., Keebler M.W., Olness G.S., Parsons S.D., Miller T. & Auther L.L. (2001). Interpretation of fables and proverbs by African Americans with and without aphasia. **American Journal of Speech-Language Pathology**, 10, 1-10.

Venter A. (2000). **Narrative Discourse of Afrikaans Speaking Coloured Aphasics in the Western Cape**. Unpublished MSc dissertation. University of Cape Town.

Von Bentheim I. (2000). **Narrative Discourse in English Speaking Coloured Persons with Aphasia and Normal Controls in the Western Cape, South Africa.** Unpublished MSc dissertation, University of Cape Town.

Virahsawmy D. (1991). **Creolistics and the Teacher of English.** In *L'Express, Culture & Research*, 1 (1), 2-28.

Wertz R.T., Ulatowska H.K., Wallace G., Payne J.C., Chapman S. & Auther-Steffen L.L. (2000). **Comparison of Aphasia in African-Americans and Caucasians.** Seminar Presentation at ASHA.

Williams S.E., Li E.C., Volpe D.A. & Ritterman S.I. (1994). The influence of topic and listener familiarity on aphasia discourse. **Journal of Communication Disorders**, 27, 207-222.

Yorkston K.M. & Beukelman D.R. (1980). An analysis of connected speech samples of aphasic and normal speakers. **Journal of Speech and Hearing Disorders**, XLV, 27-36.

#### **World Wide Web:**

Grimes B.F. (1996). **Ethnologue**, 13<sup>th</sup> edition (online). Available: <http://www.sil.org/ethnologue/countries/Maut.html>

Metz H.C. (1994). Federal research division, Library of Congress. **Mauritius: A Country Study.** Home Page (online). Available: <http://lcweb2.loc.gov/frd/cs/mutoc.html>

**APPENDIX A**  
**CONSENT FORM**

Moi ....., mon bien informe lor le but ek procedures sa etude la. Mo compren tout ek mo en signant sa forme la, mo accepte participe dan sa test la. Mo compren ki sa test la ou sa letude la pa necessairement ena kit benefice pou moi ek mo cav kit test la si mo envie.

Mo compren ki ban resultats test la pou confidential ek pou servi ziste pour sa etude la. Ban videotapes pou garder dan 1 place sure ek pour detruire zot a la fin sa letude la.

Date: \_\_\_\_\_

Signature participant: \_\_\_\_\_

Signature parent proche (si necessaire): \_\_\_\_\_

I \_\_\_\_\_

*I ....., have been informed of the aims and procedures of the present study. I fully understand them and in signing this form, I agree to participate in the testing procedure. I understand that this study may not benefit me in any way and I can withdraw from the study at any point.*

*Also, I understand that the results of the test will be kept confidential and will be used solely for the purpose of this study. The videotapes used in the testing procedure will be kept in a safe place and destroyed on completion of this study.*

University of Cape Town

*Date:* \_\_\_\_\_

*Signature of participant:* \_\_\_\_\_

*Signature of caregiver (if necessary):* \_\_\_\_\_

**APPENDIX B**  
**LANGUAGE HISTORY QUESTIONNAIRE**  
**(PARADIS 1987)**

1. Date naissance
2. Cot ou ti ne?
3. Quand ou ti zenfan, ki langage ou ti p coz plis lacaz?
4. Quand ou ti zenfan, eski ou ti p coz lezot langages lacaz?  
\*\*\* Si reponse (4) 'non', al question (6)
5. Ki lezot langages ou ti p coze lacaz quand ou ti zenfan?
6. Ki premier langage ou papa?
7. Eski li ti p coz lezot langages?  
\*\*\* Si reponse (7) 'non', al question (12)
8. Ki lezot langages ou papa coze?
9. Ki langage ou papa ti p coz plis r ou lacaz?
10. Eski ou papa ti p coz lezot langages lacaz?  
\*\*\* Si reponse (10) 'non', al question (12)
11. Ki lezot langages ou papa ti p coze lacaz?
12. Ki premier langage ou mama?
13. Eski li ti p coz lezot langages?  
\*\*\* Si reponse (13) 'non', al question (18)
14. Ki lezot langages ou mama coze?
15. Ki langage ou mama ti p coz plis r ou lacaz?
16. Eski ou mama ti p coz lezot langages lacaz?  
\*\*\* Si reponse (16) 'non', al question (18)
17. Ki lezot langages ou mama ti p coze lacaz?
18. Eski ena lezot dimun ki ti pren soin de ou kan ou ti zenfan?
19. Ki langage li ti p coze?

20. Eski li ti coz lezot langages?

\*\*\* Si reponse (20) 'non', al question (25)

21. Ki ti so lezot langage/s?

22. Ki langage li ti p coz pli r ou lacaz?

23. Eski li ti p coz lezot langages lacaz?

\*\*\* Si reponse (23) 'non', al question (25)

24. Ki lezot langage/s li ti p coze lacaz?

25. Ki langage oune servi plis avec ban camarades kan ou ti zenfan?

26. Commien lannee oune al lecol?

27. Kan ou ti commence lecol, ki ti langage d'instruction?

28. Sa letem la, eski ou ti pren ban sujets dan 1 lot langue?

\*\*\* Si reponse (28) 'non', al question (30)

29. Ki ti ban lezot langues d'instruction?

30. Ki langage ban lezot zelev ti p servi plis a lecol?

31. Eski oune sanze lecol cot ti ena 1 lot langue d'instruction apre sa?

\*\*\* Si reponse (31) 'non', al question (49)

32. Ki langage ti ete?

33. Apre commien letem ou ti fer sa changement la?

34. Sa letem la, eski ou ti pren ban sujets dan 1 lot langue?

\*\*\* Si reponse (34) 'non', al question (36)

35. Ki ti lezot langues d'instruction?

36. Ki langage ban lezot zelev ti p servi plis dan sa lecol?

37. Eski oune sanze lecol cot ti ena 1 lot langue d'instruction apre sa?

\*\*\* Si reponse (37) 'non', al question (49)

38. Ki langue ti ete?

39. Apre commien letem ou ti fer sa changement la?

40. Sa letem la, eski ou ti pren ban sujets dan 1 lot langue?

\*\*\* Si reponse (40) 'non', al question (49)

41. Ki ti lezot langues d'instruction?

42. Ki langage ban lezot zelev ti p servi plis dan sa lecol?

43. Eski oune sanze lecol cot ti ena 1 lot langue d'instruction apre sa?

\*\*\* Si reponse (43) 'non', al question (49)

44. Ki langue ti ete?

45. Apre commien letem ou ti fer sa changement la?

46. Sa letem la, eski ou ti pren ban sujets dan 1 lot langue?

\*\*\* Si reponse (46) 'non', al question (48)

47. Ki ti lezot langues d'instruction?

48. Ki langage ban lezot zelev ti p servi plis dan sa lecol?

49. Kan oune fini ou education, ki travail oune fer?

50. Avan ou acciden/malade, ki ban langages ou ti p coze?

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## Language History Questionnaire (Paradis 1987)

1. *Date of birth*
2. *Where were you born?*
3. *As a child, what language did you speak most at home?*
4. *As a child, did you speak any other languages at home?*  
\*\*\* *If the answer to (4) is "no" then go to question (6)*
5. *What other languages did you speak at home as a child?*
6. *What was your father's native language?*
7. *Did he speak any other languages?*  
\*\*\* *If the answer to (7) is "no" then go to question (12)*
8. *What was your father's other languages(s)?*
9. *What language did your father speak most to you at home?*
10. *Did your father speak other languages at home?*  
\*\*\* *If the answer to (10) is "no" then go to question (12)*
11. *What other languages did your father speak at home?*
12. *What was your mother's native language?*
13. *Did she speak any other languages?*  
\*\*\* *If the answer to (13) is "no" then go to question (18)*
14. *What was your mother's other language(s)?*
15. *What language did your mother speak most to you at home?*
16. *Did your mother speak other languages at home?*  
\*\*\* *If the answer to (16) is "no" then go to question (18)*
17. *What other languages did your mother speak at home?*
18. *Did anyone else take care of you as a child?*
19. *What was his/her native language?*
20. *Did he/she speak any languages?*  
\*\*\* *If the answer to (20) is "no" then go to question (25)*
21. *What was his/her other language(s)?*
22. *What language did he/she speak most to you at home?*

23. *Did he/she speak other languages at home?*

*\*\*\* If the answer to (23) is "no" then go to question (25)*

24. *What other languages did he/she speak at home?*

25. *What language did you speak most with friends as a child?*

26. *How many years of education have you had?*

27. *When you started school, what was the language of instruction?*

28. *At that time, did you take any subjects in another language?*

*\*\*\* If the answer to (28) is "no" then go to question (30)*

29. *What were the other languages of instruction?*

30. *What language did most of the other students speak at this school?*

31. *Did you change to a school with another language of instruction after that?*

*\*\*\* If the answer to (31) is "no" then go to question (49)*

32. *What was this language?*

33. *After how many years did you switch to this new language of instruction?*

34. *At that time, did you take any subjects in another language?*

*\*\*\* If the answer to (34) is "no" then go to question (36)*

35. *What were the other languages of instruction?*

36. *What language did most of the students speak at this school?*

37. *Did you change to a school with another language of instruction after that?*

*\*\*\* If the answer to (37) is "no" then go to question (49)*

38. *What was this language?*

39. *After how many years did you switch to this new language of instruction?*

40. *At that time, did you take any subjects in another language?*

*\*\*\* If the answer to (40) is "no" then go to question (49)*

41. *What were the other languages of instruction?*

42. *What language did most of the students speak at this school?*

43. *Did you change to a school with another language of instruction after that?*

*\*\*\* If the answer to (43) is "no" then go to question (49)*

44. *What was this language?*

45. *After how many years did you switch to this new language of instruction?*

46. *At that time, did you take any subjects in another language?*

*\*\*\* If the answer to (46) is "no" then go to question (48)*

47. *What were the other languages of instruction?*

48. *What language did most of the students speak at this school?*

49. *And after your education was completed, what was your occupation?*

50. *Before your accident/illness what languages were you able to speak?*

University of Cape Town

**APPENDIX C**  
**WESTERN APHASIA BATTERY (KERTESZ 1982)**

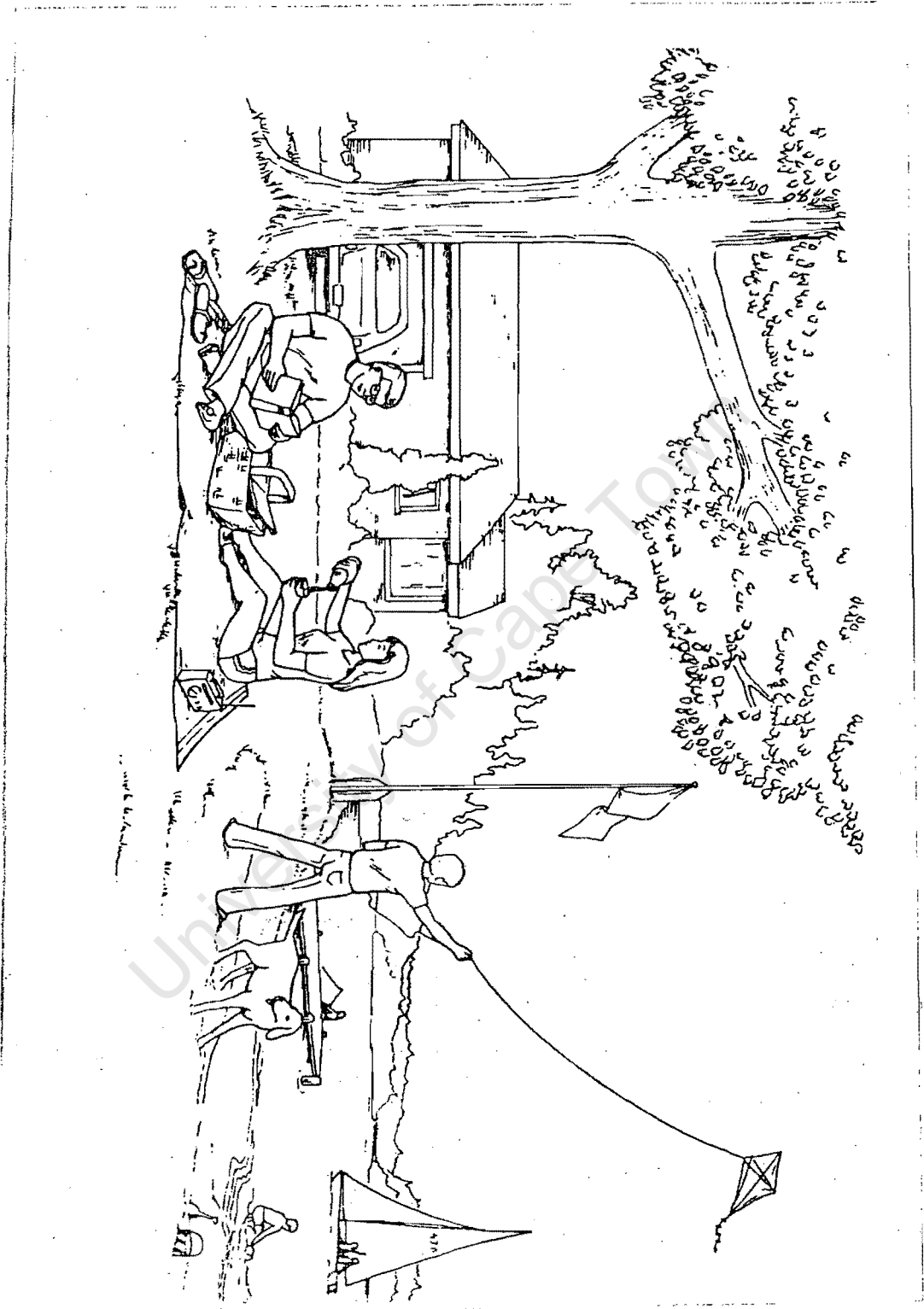
**I Spontaneous Speech**

1. Ki maniere?
2. Oune deza vin la avan?
3. Kuma ou apele?
4. Cot ou reste?
5. Ki travail ou fer?
6. Dir moi 1 tipe ki fer ou la? Ki problem ou ena?
7. Description of picture.

Instruction: Dir moi ki ou p trouve lor sa dessin la? Essaye coz en phrase?

1. *How are you today?*
2. *Have you been here before?*
3. *What is your name?*
4. *What is your address?*
5. *What is your occupation?*
6. *Tell me a little about why you are here? or what seems to be the trouble?*
7. *Description of picture.*

Instruction: 'Tell me what you see. Try to talk in sentences'



## II Auditory Verbal Comprehension

### A : Yes/No Questions

Instruction : Mo pu diman ou ban questions, ou bisin reponne par oui ou non

1. Eski ou apel Robin?
2. Eski ou apel Rita?
3. Eski ou apel \_\_\_\_\_?
4. Eski ou habite Port Louis?
5. Eski ou habite \_\_\_\_\_?
6. Eski ou habite Reduit?
7. Eski ou 1 madam/missie?
8. Eski ou 1 docter?
9. Eski mo 1 madam/missie?
10. Eski la limiere alime dan sa lasam la?
11. Eski la porte ouver?
12. Eski sa 1 lotel?
13. Eski sa \_\_\_\_\_?
14. Eski oune met pyjamas rouge?
15. Eski papier brile dan dife?
16. Eski Mars vin avan Juin?
17. Eski ou mange 1 banane avan ki ou plisse li?
18. Eski cav ena cyclone en Janvier?
19. Eski 1 cheval pli gro ki 1 chien?
20. Eski ou coupe l'herbe avec 1 hache?

*Instruction: I am going to ask you some questions and the answers should be either 'yes' or 'no'*

1. *Is your name Robin?*
2. *Is your name Rita?*
3. *Is your name (real name)?*
4. *Do you live in Port Louis?*
5. *Do you live in (real residence)?*
6. *Do you live in Reduit?*
7. *Are you a man/woman?*
8. *Are you a doctor?*
9. *Am I a man/woman?*
10. *Are the lights on in this room?*
11. *Is the door closed?*
12. *Is this a hotel?*
13. *Is this (real test location)?*
14. *Are you wearing red pyjamas?*
15. *Will paper burn in fire?*
16. *Does March come before June?*
17. *Do you eat a banana before you peel it?*
18. *Can we have cyclones in January?*
19. *Is a horse larger than a dog?*
20. *Do you cut the grass with an axe?*

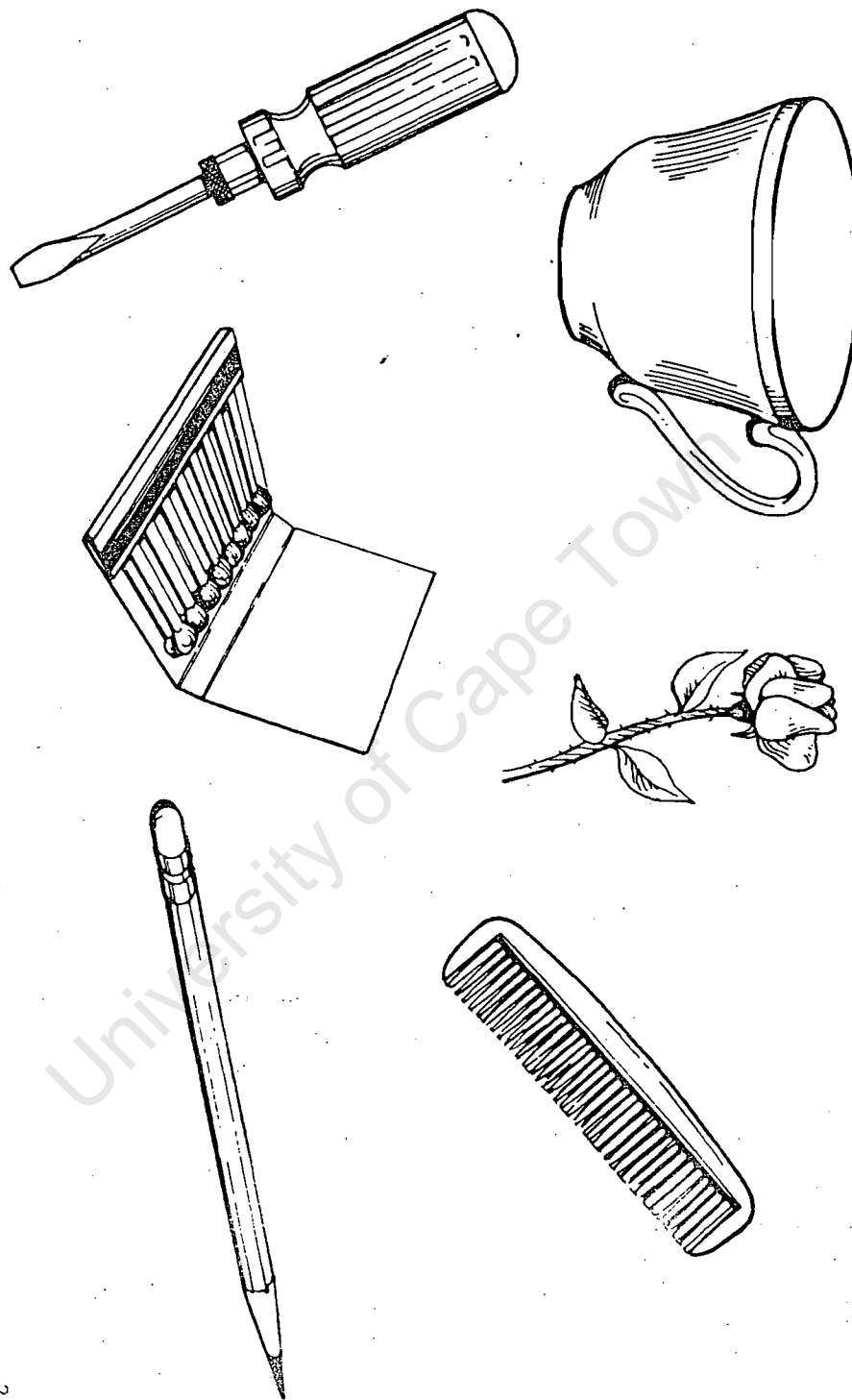
**B: Auditory Word Recognition**

Instructions: Montrez moi \_\_\_\_\_

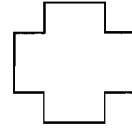
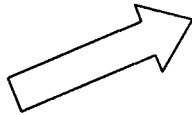
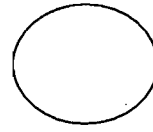
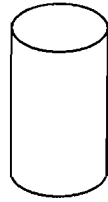
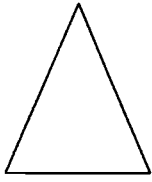
<b>Objets reels</b>	<b>Dessins</b>	<b>Formes</b>	<b>Lettres</b>	<b>Nombres</b>
Tasse	Allumette	Carre	J	5
Allumette	Tasse	Triangle	F	61
Crayon	Peigne	Cercle	B	500
Fleur	Tourne a vis	Fleche	K	1867
Peigne	Crayon	Croix	M	32
Tourne a vis	Fleur	Cylindre	D	5000
<b>Couleurs</b>	<b>Meubles</b>	<b>Parties du corps</b>	<b>Doigts</b>	<b>Droit-gauche</b>
Bleu	Fenetre	Oreille	Le pouce	Epaule droite
Marron	Chaise	Nez	L' annulaire	Genou gauche
Rouge	Table	Oeil	L' index	Cheville gauche
Vert	Lumiere	Poitrine	L' auriculaire	Poignet droit
Jaune	Porte	Cou	Le majeure	Coude gauche
Noir	Plafond	Menton	L' oreille droite	Joue droite

Instructions: Show me \_\_\_\_\_

<i>Real objects</i>	<i>Drawn objects</i>	<i>Forms</i>	<i>Letters</i>	<i>Numbers</i>
<i>Cup</i>	<i>Matches</i>	<i>Square</i>	<i>J</i>	<i>5</i>
<i>Matches</i>	<i>Cup</i>	<i>Triangle</i>	<i>F</i>	<i>61</i>
<i>Pencil</i>	<i>Comb</i>	<i>Circle</i>	<i>B</i>	<i>500</i>
<i>Flower</i>	<i>Screwdriver</i>	<i>Arrow</i>	<i>K</i>	<i>1867</i>
<i>Comb</i>	<i>Pencil</i>	<i>Cross</i>	<i>M</i>	<i>32</i>
<i>Screwdriver</i>	<i>Flower</i>	<i>Cylinder</i>	<i>D</i>	<i>5000</i>
<i>Colors</i>	<i>Furniture</i>	<i>Body parts</i>	<i>Fingers</i>	<i>Right-Left</i>
<i>Blue</i>	<i>Window</i>	<i>Ear</i>	<i>Thumb</i>	<i>Right shoulder</i>
<i>Brown</i>	<i>Chair</i>	<i>Nose</i>	<i>Ring finger</i>	<i>Left knee</i>
<i>Red</i>	<i>Desk</i>	<i>Eye</i>	<i>Index finger</i>	<i>Left ankle</i>
<i>Green</i>	<i>Light</i>	<i>Chest</i>	<i>Little finger</i>	<i>Right wrist</i>
<i>Yellow</i>	<i>Door</i>	<i>Neck</i>	<i>Middle finger</i>	<i>Left elbow</i>
<i>Black</i>	<i>Ceiling</i>	<i>Chin</i>	<i>Right ear</i>	<i>Right cheek</i>



2



**61**

**5**

**1867**

**5000**

**32**

**500**

**500**

**M**

**J**

**D**

**B**

**K**

**F**

**C: Sequential Commands**

Instruction: 'Guet sa plime la, sa peigne la ek sa livre la. Mo pu diman ou montre moi zot kan mo diman ou ek fer kitsoz r zot. Ou prêt?

1. Leve ou la main
2. Ferme ou lizie
3. Montre moi chaise
4. Montre moi la fenetre, apre la porte
5. Montre moi plime ek livre
6. Montre moi livre avec plime
7. Montre moi plime avec livre
8. Montre moi peigne avec plime
9. Avec livre, montre moi peigne
10. Met plime lor livre la, apre donne moi li
11. Met peigne la lot cote plime la ek tourne livre la

*Instruction: See the pen, the comb and the book? I will ask you to point to them and do things with them, just as I say. Are you ready?*

1. *Raise your hand*
2. *Shut your eyes*
3. *Point to the chair*
4. *Point to the window, then to the door*
5. *Point to the pen and the book*
6. *Point with the pen to the book*
7. *Point to the pen with the book*
8. *Point to the comb with the pen*
9. *With the book point to the comb*
10. *Put the pen on top of the book then give it to me*
11. *Put the comb on the other side of the pen and turn over the book*

### III Repetition

Instruction: Repete après moi

1. Lili
2. Nene
3. Pipe
4. Lafenet
5. Banane
6. Groboule
7. Quarante-cinq
8. Quatre-vingt quinze pourcent
9. Soixante-deux et demi
10. Telephone p sonne
11. Li pa p revini
12. Patissier la ti content
13. Special Mobile force Unit
14. Pa dire oui ou non ou capave
15. Rempli mo sac avec cinq douzaine ti dipain rond

*Instruction: Repeat after me*

1. *Bed*
2. *Nose*
3. *Pipe*
4. *Window*
5. *Banana*
6. *Big ball*
7. *Forty –five*
8. *Ninety –five percent*
9. *Sixty two and a half*
10. *The telephone is ringing*
11. *He is not coming back*
12. *The pastry cook was elated*
13. *Special Mobile Force Unit*
14. *No ifs, ands or buts*
15. *Pack my bag with five dozen small round bread*

#### IV Naming

Instruction : Ki ete sa

1. Sac
2. Boule
3. Couteau
4. Tasse
5. Pin
6. Marteau
7. Brosse a dent
8. Gomme
9. Cadenas
10. Crayon
11. Tournavis
12. Lacle
13. Mirroir
14. Pipe
15. Peigne
16. Lastik
17. Cuillere
18. Cellotape
19. Fourchette
20. Allumettes

*Instruction: What is this?*

1. *Bag*
2. *Ball*
3. *Knife*
4. *Cup*
5. *Safety pin*
6. *Hammer*
7. *Toothbrush*
8. *Eraser*
9. *Padlock*
10. *Pencil*
11. *Screwdriver*
12. *Key*
13. *Mirror*
14. *Pipe*
15. *Comb*
16. *Elastic*
17. *Spoon*
18. *Scotch tape*
19. *Fork*
20. *Matches*

**B: Word Fluency**

Instruction: Nomme tu ban animaux qui ou conne pendant 1 minute

*Instruction: Name as many animals as you can in 1 minute*

**C: Sentence Completion**

Instruction : Complete sa ban phrases la

1. L'herbe est \_\_\_\_\_ (verte)
2. Le sucre est \_\_\_\_\_ (doux ou blanc)
3. Ban roses rouge, ek violets \_\_\_\_\_ (bleu)
4. Zot p la guere kuma sat ek \_\_\_\_\_ (lichien)
5. Noel li dan mois de \_\_\_\_\_ (decembre)

*Instruction: Complete what I say*

1. *The grass is \_\_\_\_\_ (green)*
2. *Sugar is \_\_\_\_\_ (sweet or white)*
3. *Roses are red, violets are \_\_\_\_\_ (blue)*
4. *They fought like cats and \_\_\_\_\_ (dogs)*
5. *Christmas is in the month of \_\_\_\_\_ (December)*

**D: Responsive Speech**

Instruction : Reponne sa ban questions la

1. Avec ki ou ecrire ? (plume, crayon)
2. Ki couler la neige ? (blanc)
3. Commien zour ena dan 1 semaine ? (sept)
4. Cot ban nurses travail ? (lopital)
5. Cot capave gagne timbres ? (la poste)

*Instruction: Answer these questions*

1. *What do you write with? (pen, pencil)*
2. *What colour is snow? (white)*
3. *How many days are in a week? (seven)*
4. *Where do nurses work? (hospital)*
5. *Where can you get stamps? (post office, variety store)*

**APPENDIX D**  
**ADAPTED VERSION OF THE ULATOWSKA ET AL**  
**(1998) DISCOURSE TEST BATTERY**

**Instructions in Mauritian Creole and English**

**Single Pictures stimuli (The Fall and Crocodile Attack)**

‘Fer 1 zistoire lor se ki p arrive lor sa photo la’

Main Idea

‘Dire moi ki zafer pli important dan sa zistoire la’

***Single Pictures stimuli (The Fall and Crocodile Attack)***

*‘Make up a story about what is happening in this picture’*

Main Idea

*‘Tell me the most important thing from that story’*

**'The Fall'**



**'Crocodile Attack'**



**Apple Theft**

'Fer 1 zistoire lor se ki p arrive lor sa photos la'

Main Idea

'Dire moi ki zafer pli important dan sa zistoire la'

Lesson

'Ki lesson nu cav tirer depi sa zistoire la'

***Apple Theft***

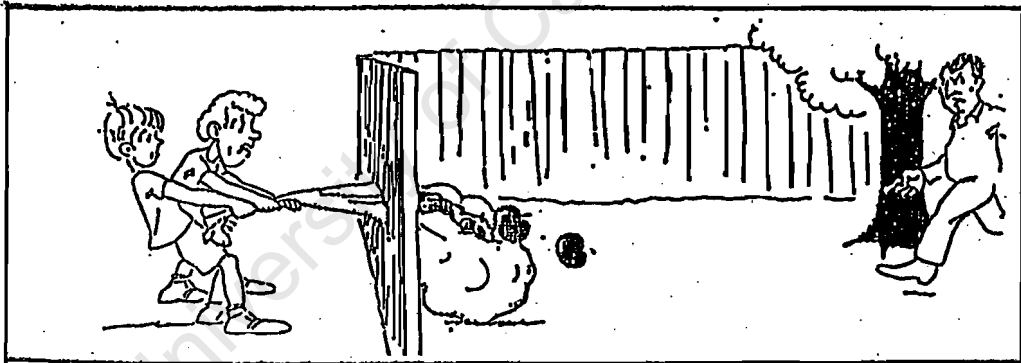
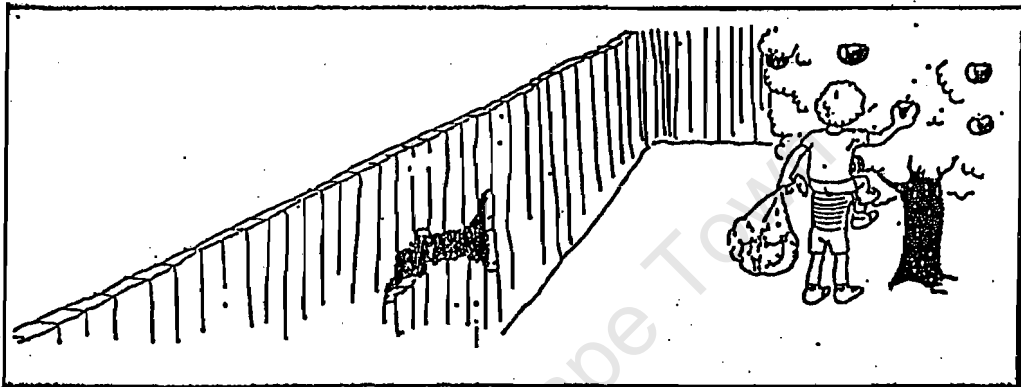
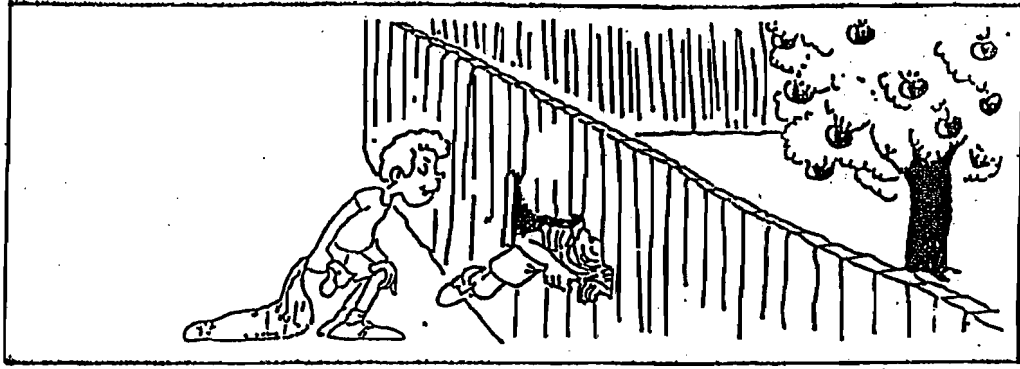
*'Make up a story about what is happening in these pictures'*

Main Idea

*'Tell me the most important thing from that story'*

Lesson

*'What kind of a lesson can we learn from it'*



**Fable**

Ene fermier ti ena 1 terrain cot li ti p plante raisins. Coume sa li ti vin riche. Li ti envie ki so ban zenfans vine couma li. Alors, avan li mor, lor so lili, lin dir zot 'ki ena 1 tresor enterre emba la terre dan sa terrain la. Apre so la mor, ban garsons la in alle fouille la terre. Mai zot pan truv aukaine tresor. Apre kan saison fruit in vini, zot in gagne xtra bon raisins. Lerla ban garsons la in compren ki tresor la ti ete finalement.

'Oune bisin tanne ban fables avan. Lire san la ziska ki ou pense oune bien gagne li, apre mo pu pren li ek ou pu bisin raconte moi li. Avan mo pu lire li pu ou'

Main Idea

'Dire moi ki zafer pli important dan sa zistoire la'

Lesson

'Ki lesson nu cav tirer depi sa zistoire la?'

**Fable**

*A farmer worked in a vineyard and became rich, He wanted his sons to be just like him. On his deathbed, the farmer told his sons that there was a great treasure buried in the vineyard. After the farmer died, the sons went to the vineyard and dug up the soil. They could not find a buried treasure. At harvest time, the vineyard produced the best grapes ever. Now the sons understood the meaning of the treasure.*

*'You have probably heard fables before. Read this one till you feel like you've got it and then I am going to take it away and you will have to tell it back to me. I have to read it first to you'*

Main Idea

*'What is the most important thing about this story'*

Lesson

*'What kind of a lesson can we learn from it'*

**Personal Experience**

'Eski oune deza gagne bien per avan? Mo le ou rapel 1 letemps cot ou ti gagne bien per ek raconte moi sa zistoire la'

***Personal Experience***

*'Have you been scared before? I want you to think of a time when you were scared and tell me a story about it'*

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## Idiomatic Creole Expressions

### Spontaneous interpretations

'Oune bisin tanne ban expressions Creole. Mo ena inpe la ek mo ti envie ki ou dire moi ki ve dire par sa. Si meme ou pa sir, ou cav essaye deviner'

'Aster, eski oune deza tanne sa avan (present expression)?'

'Ki ve dire par sa?'

1. Kan sat pa la, le rats fer bal
2. Mo lave la main are toi
3. Mo kuma dire zaco dan la misik
4. Mon gagne la tete
5. Mo dan pince

### Spontaneous interpretations

*'You must have heard of Creole expressions. I've got some Creole expressions and I want you to tell me what do you understand by them. Even if you are not sure, it's ok to guess'*

*'Now, did you hear this one before (present expression)?'*

*'What does it mean?'*

1. *When the cat's away, the mice will play*
2. *I wash my hands off you*
3. *The monkey is dancing to music*
4. *I got a big head*
5. *I am in a tight spot*

**Multiple choice formats**

'Sa ban meme expressions, mo pu lire 4 different definitions pu chaque. Montrer moi ki ou pense meiller definition pu sa expression la'

1. Kan sat pa la, le rats fer bal
  - A. Kan sat alle, le rats amize
  - B. Sat ek le rats vivent ensam dan 1 la ferme
  - C. Pense bien avan pren 1 decision
  - D. Kan maitre pa la, lezot dimounes fer bal
  
2. Mo lave la main are toi
  - A. Mo nepli envie gagne zaffer are toi
  - B. Mo lave la main ensam avec toi
  - C. Nu trap la main
  - D. Fer attention microbes
  
3. Mo couma dire zaco dan la musik
  - A. Mo conten la musik kuma 1 zaco
  - B. Mo pa p compren narien
  - C. Mo danse couma 1 zaco dan la musik
  - D. La musik ranne dimoune fou
  
4. Mon gagne la tete
  - A. Mo la tete p fer mal
  - B. Mon gagne extra deconcerte ou embarrasse
  - C. Mon vine pli malin
  - D. Mon gagne boukou largen

5. Mo dan pince
- A. Mo dan 1 problem ou mo dan difficulty
  - B. Ena dimoune in pince moi
  - C. Fer tantion dimounes morde
  - D. Mon pren poids

**Multiple choice formats**

*'Here are the same expressions. I am going to read 4 different meanings for each one. Tell/show me which one you think is the best meaning for the expression'*

1. *When the cat's away, the mice will play*
- A. *When the cat leaves, the mice can enjoy themselves*
  - B. *Cats and mice live on a farm*
  - C. *Look before you leap*
  - D. *When the boss is gone, everybody has fun*
2. *I wash my hands off you*
- A. *I don't want to have anything to do with you*
  - B. *I wash my hands with you*
  - C. *Let's hold hands*
  - D. *Be careful of germs*
3. *The monkey is dancing to music*
- A. *I love music just like a monkey*
  - B. *I don't understand anything*
  - C. *I'm dancing to music like a monkey*
  - D. *Music drives people mad*

4. *I got a big head*

- A. *I've got a headache*
- B. *I was very embarrassed*
- C. *I got extremely intelligent*
- D. *I got a lot of money*

5. *I am in a tight spot*

- A. *I have a problem or I am in great difficulty*
- B. *Somebody pinched me*
- C. *Be careful people bite*
- D. *I have picked up weight*

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## APPENDIX E

### RESULTS OF FIRST LOGISTIC REGRESSION ANALYSES

**Table I: Results of first logistic regression analysis on ‘Apple Theft’**

Variable	B value	Wald	Significance
<b>Global structure</b>	<b>2.4469</b>	<b>1.7798</b>	<b>.1822</b>
Temporal sequence	-1.4435	.5111	.4747
Reference	-.1536	.0229	.8797
Suspense	.5396	.0999	.7520
Coherence	.3674	.0470	.8284
Clarity	-.3050	.0439	.8340

**Table II: Results of first logistic regression analyses on the ‘Single Pictures’ stimuli**

<b>The Fall</b>	Variable	B Value	Wald	Significance
	Global structure	-1.1685	.4671	.4943
	<b>Temporal sequence</b>	<b>3.7705</b>	<b>2.7406</b>	<b>.0978</b>
	Reference	.9270	.7692	.3805
	Suspense	.4712	.1282	.7204
	Coherence	1.0967	.2267	.6340
	Clarity	-1.7710	.8134	.3671
<b>Crocodile Attack</b>	Variable	B Value	Wald	Significance
	Global structure	1.3214	.7853	.3755
	<b>Temporal sequence</b>	<b>3.1414</b>	<b>3.3363</b>	<b>.0678</b>
	Reference	-.9255	.4286	.5127
	Suspense	-2.4391	2.6040	.1066
	Coherence	.8677	.1856	.6666
	Clarity	-1.9250	.7293	.3931

**Table III: Results of first logistic regression analysis on the ‘Fable’**

<b>Variable</b>	<b>B value</b>	<b>Wald</b>	<b>Significance</b>
<b>Completeness</b>	<b>-1.5920</b>	<b>.3705</b>	<b>.5427</b>
<b>Temporal sequence</b>	<b>-.0139</b>	<b>.0001</b>	<b>.9907</b>
<b>Reference</b>	<b>1.4636</b>	<b>.3687</b>	<b>.5437</b>
<b>Accuracy</b>	<b>-1.2013</b>	<b>.5918</b>	<b>.4417</b>
<b>Coherence</b>	<b>3.7794</b>	<b>1.2965</b>	<b>.2549</b>
<b>Clarity</b>	<b>9.5562</b>	<b>.0321</b>	<b>.8578</b>

**Table IV: Results of first regression analysis on ‘Personal Experience’**

<b>Variable</b>	<b>B value</b>	<b>Wald</b>	<b>Significance</b>
<b>Global structure</b>	<b>-10.7908</b>	<b>.0355</b>	<b>.8505</b>
<b>Temporal sequence</b>	<b>10.7385</b>	<b>.0352</b>	<b>.8512</b>
<b>Reference</b>	<b>.9582</b>	<b>.3470</b>	<b>.5558</b>
<b>Suspense</b>	<b>10.7731</b>	<b>.0355</b>	<b>.8506</b>
<b>Coherence</b>	<b>9.8992</b>	<b>.0299</b>	<b>.8626</b>
<b>Clarity</b>	<b>-10.7766</b>	<b>.0354</b>	<b>.8507</b>

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