CHAPTER 3

METHODOLOGY

3.0 Overview of the study

The current study tries to understand the effects of planning on the writing of narratives by undergraduates. To do this, the written narratives of undergraduates were analyzed in terms of fluency, complexity and accuracy. This chapter discusses the criteria for the selection of participants and the rationale for the selection. The various instruments used for data collection are listed and discussed in detail. For purposes of data collection, the subjects for the study were divided into three groups. The task given to each group of participants will be described in this chapter as well.

This study was guided by the research objective of understanding how students perform in narrative writing under different planning conditions. This led to two main research questions (RQs):

RQ1. How do students perform in narrative writing in terms of fluency, complexity and accuracy of language under different planning conditions?

RQ2. How do students perceive their performance in narrative writing under different planning conditions?

There are three types of planning conditions and they are explained in the following sections.

3.1 Subjects

The subjects were undergraduates from faculties of Accountancy, Business, Economics, Law and Linguistics. It was important to obtain subjects of a similar background and proficiency in English to attain internal validity and to avoid any bias amongst the subjects (Porte, 2002). These participants were between 19 to 21 years old. In an attempt to ensure the homogeneity of the subjects, mature students who had working experience were excluded from the study as it was felt that their exposure to the workplace might have benefitted them in terms of their command of the English language. For the same reason, students who have lived overseas for a significant amount of time and those who had received training on how to write narratives were excluded from the study.

All the subjects had completed either the Sijil Tinggi Pelajaran Malaysia (STPM) or matriculation course before enrolling into university. The STPM is a public school examination qualification equivalent to the A-Levels, whereas the matriculation course is similar to a pre-university course. The STPM takes one and a half years to complete whilst the matriculation course is completed in one year. Either the STPM or the matriculation course is a prerequisite for students to enrol into the first year of a university degree course.

Another criterion for the selection of subjects was that they had to be students with average English language proficiency. To establish this, the Malaysian University English Test (MUET) was selected as opposed to the English Language results in the Sijil Pelajaran Malaysia (SPM) or STPM results. There were two main reasons for using the MUET results. Firstly, the MUET comes under the purview of the Malaysian Examinations Council. As such, it can be deemed a reliable and valid yardstick of students' proficiency in English to establish that there were no significant differences in proficiency in English across the subjects selected. Secondly, the MUET is the last

public English language proficiency examination taken by all the subjects for entry into university. It represents the subjects' most recent measurement of English Language proficiency by a public examination council and as such, the researcher felt that it was a more accurate yardstick compared to the SPM English Language result. As the subjects were undergraduates, it was fitting that their MUET rather than SPM or STPM results were used as the yardstick for the subjects' participation in this study.

The MUET comprises four components, namely listening, speaking, writing and reading. The writing component makes up 30% of the test components. In this component, candidates are assessed on the appropriacy of the language, accuracy of grammar and vocabulary, coherence and cohesion of ideas, task fulfilment and use of language functions. Possible genres in the writing assessment include reports, essays and letters.

The results of the four components are categorized into a band. There are six bands in the MUET (Table 3.1). Band 1 denotes the lowest proficiency and Band 6 indicates the highest proficiency. Band 4 describes a candidate as a satisfactory user, with a satisfactory understanding of language and context, and the ability to communicate fluently but with some grammatical errors. Band 4 students have the ability to function satisfactorily in the language, thus they constitute users of average proficiency. As this study focuses on the effects of planning on the written narratives of average proficiency students, Band 4 was chosen as the benchmark and only students with Band 4 were selected for this study.

The researcher sought 35 subjects who fit the profile described above. Five of the 35 students were to take part in the initial study to establish the time limit for the tasks while the other 30 were the actual subjects of the study. Prior to the task given, the participants were assured that the study was done for research purposes only, and they took part in the study voluntarily. Neither race nor gender was a variable for this study.

Table 3.1 Description and explanation of MUET bands

AGGREGATED SCORE	BAND	USER	COMMUNICATIVE ABILITY	COMPREHENSION	TASK PERFORMANCE
260 – 300	6	Highly proficient user	Very fluent; highly appropriate use of language; hardly any grammatical error	Very good understanding of language and context	Very high ability to function in the language
220 – 259	5	Proficient user	Fluent; appropriate use of language; few grammatical errors	Good understanding of language and context	High ability to function in the language
180 – 219	4	Satisfactory user	Generally fluent; generally appropriate use of language; some grammatical errors	Satisfactory understanding of language and context	Satisfactory ability to function in the language
140 – 179	3	Modest user	Fairly fluent; fairly appropriate use of language; many grammatical errors	Fair understanding of language and context	Fair ability to function in the language
100 – 139	2	Limited user	Not fluent; inappropriate use of language; very frequent grammatical errors	Limited understanding of language and context	Limited ability to function in the language
Below 100	1	Very limited user	Hardly able to use the language	Very limited understanding of language and context	Very limited ability to function in the language

3.2 Task

The task of the study was to write a short story based on a set of pictures, with three task conditions. The task conditions involved a time limit which had to be established first before the task could be carried out. The discussion below explains first the establishing of the time limit and then the three task conditions.

3.2.1 Establishing Time Limit

The time limit is essential for this study as it served to ensure as little planning as possible in the writing task, according to Ellis and Yuan (2004). The procedure for establishing the time limit was based on the study conducted by Ellis and Yuan (2004). It involved the administration of the No Planning (NP) task condition on a group of participants to record the shortest time required to write a narrative of at least 200 words. Five participants were selected for this exercise. They were given the same set of eight pictures which was used for the study. No planning time was allowed. The participants were told to take as much time as they required to finish writing the narrative. Out of the five participants, one of them took 10 minutes, three of them took 11 minutes to write and one took 13 minutes. The researcher felt that 11 minutes was a realistic time limit to use for the study. Therefore 11 minutes was used as the time limit in two of the task conditions, namely No Planning (NP) and Pre-Task Planning (PTP).

For the actual study, the 30 participants were categorized into groups of 10 for each of the three task conditions. This will be described in the following section.

3.2.2 Task Conditions

There were three task conditions in this study, which is a replication of an earlier study by Ellis and Yuan (2004), namely No Planning (NP), Pre-Task Planning (PTP) and Within-Task Planning (WTP). In their study, Ellis and Yuan used the term "Online Planning" instead of "Within-Task Planning" (WTP). However, based on Ellis' (2008) discussion about Within-Task Planning, the researcher felt that the two terms were similar but "Within-Task Planning" more accurately described the task condition. Hence the term "Within-Task Planning" was used instead of "Online Planning". Each condition is described in the following sections.

3.2.2.1 No Planning (NP)

The NP task condition was the most stringent of the three task conditions. In this task condition, the participants were required to produce a written narrative of at least 200 words in 11 minutes. This was the time established earlier (see 3.2.1). No pre-task planning time is given.

3.2.2.2 Pre-Task Planning (PTP)

In the PTP condition, each participant was given 10 minutes prior to the actual writing to plan their narrative. No guidelines were given for the planning in order that the participants could be free to plan as they wished. The planning time of 10 minutes is based on the study by Ellis and Yuan (2004). The participants were each given a blank piece of paper to make notes, but were informed that the planning notes would be taken away when the 10 minutes were up and they had to commence writing. Participants were similarly allotted 11 minutes, as in the NP task condition, to complete the written narrative of at least 200 words.

3.2.2.3 Within-Task Planning (WTP)

The WTP task condition was the least stringent of the three. The participants in the WTP task condition were not given any time limit or word limit in the writing task. The word and time constraints were removed so that participants need not write quickly and had sufficient time for completing the task. However, they were required to write immediately upon starting the task i.e. when the set of pictures were given to them. The time taken by each WTP participant was recorded to ascertain if it exceeded the 11 minutes used in the NP and PTP tasks.

3.2.3 Grouping of participants

The 30 subjects were divided into three groups of 10 each. Hence, there were 10 participants for each task condition and each participant only performed one writing task. As the group of 30 participants was considered homogenous, they were categorized into task groups based on their availability. Participants who had a lot of free time were given the task that had no time limit, i.e. the WTP task. Participants who had limited available time were assigned the task that imposed a time limit, i.e. the NP or the PTP task.

3.3 Instruments

The instruments used for the study consisted of a set of eight pictures, one questionnaire for each task condition group and semi-structured interviews. They are described in detail below.

3.3.1 Set of Eight Pictures

Pictures are popularly used for language learning. They motivate the students to learn and make them more attentive in class. They can stimulate and provide information in story-telling, besides enabling learners to describe them in an objective manner (Wright, 1989).

Pictures can be used to aid low proficiency learners in their writing. Ishikawa (1995) stated that low proficiency writers frequently gave insufficient information in their writings such that it was difficult for a reader to understand what was written. Therefore in her study, pictures were used so that she would know beforehand how the story should be told, hence allowing a certain measure of control over the content.

According to Ishikawa, having the pictures meant that the participants need not think very much about writing the content, but rather could focus on how to tell the story.

Wang and Wen (2002) used a set of six pictures in their study of 16 EFL average proficiency university students' narrative writing. The think-aloud method was used during the composing process. Although the pictures did not contain any words, Wang and Wen found that they influenced the writers to compose using their L1.

A written narrative based on a set of pictures was chosen for this study as opposed to other forms of writing to replicate the study conducted by Ellis and Yuan (2004) and to compare results obtained from this study to theirs. As narrative compositions have also been shown to require the least cognitive effort compared to persuasive and descriptive writing tasks (Kellogg, Krueger, & Blair, 1991), using it for this study would lessen any undue pressure upon the participants during the experiment. Although it may give an impression that narrative tasks are easy to write, the narrative writing task in this study was not meant to make things easy for the participants, but to allow the study to focus on the element of planning in various task conditions when writing a narrative. In line with this focus, the storyline in the set of pictures was therefore not straightforward but had a twist in it, making it a reasonably challenging task for the participants.

Thus in the current study, participants were required to produce a written narrative based on a set of eight pictures. The set of pictures was extracted from Heaton (1982), and is attached in Appendix A. The set of pictures was also culturally familiar (Bennui, 2003). There was only limited written assistance, i.e. a starting prompt, which was "One day, the sports club organized a race in the countryside..."

The first of the eight pictures shows a group of five youths divided into two teams. One team, with three members, is wearing white jerseys and the other team, with two members, is in black jerseys. They are on the starting line of a cross-country race,

preparing to sprint forth once the gun is fired. The second frame shows the white team runners leading the race. They are following the signboards displayed along the course of the race. In the third picture, one of the white team members mischievously diverts the second signboard to mislead the other team, so that it points toward a steep hill. His teammates are seen laughing as they run ahead in the correct direction.

In the next picture, the black team runners have arrived at the location of the changed signboard and unsuspectingly take the diverted path. In the fifth picture, the white team runners see that their trick has succeeded. They laugh and run on ahead. After running a while the white team reaches a cliff with a broken bridge hanging precariously below. This is shown in the sixth picture. The following picture shows the white team hurrying back to the signboard which they had diverted. The final picture shows the black team crossing the finishing line. The twist in the story is that the diverted signboard led the black team to a short-cut which enabled them to finish the race first. In the meantime, the white team is still far behind. The bad intentions of the white team inadvertently led to the victory of the unsuspecting black team.

The story is not very straightforward, and requires some cognitive interpretation from the participants. Once the participants realize there is a twist in the story, they actually need to review the pictures and rethink the storyline. If they are required to write without planning and with limited time, it may result in a story that is poorly narrated. The pictures may also be wrongly interpreted. If the participants are given planning time, they can organize the language and content of the story before actually writing the story. If they are asked to write immediately upon seeing the pictures but without any time limit, they may be able to think of the right language but may not be able to plan the content properly, due to the irony in the story.

3.3.2 Questionnaires

Questionnaires are commonly used in quantitative studies. They permit responses in written form; hence the data is immediately available. Questionnaires can be used to gather data that is not easily observable, such as the nature of cognitive processes and attitudes towards certain tasks. They are not time-consuming to be administered and usually do not give undue pressure to the participants. Questionnaires are inexpensive to administer and can save a researcher's efforts, as a well-written questionnaire permits efficient data processing (Dörnyei, 2003).

The types of questions posed will also result in different degrees of clarity in the response given (Seliger & Shohamy, 1989). Structured or close-ended questions with a selection of alternatives will yield clear and precise data, thus enabling data to be more accurately quantified, while open questions tend to give freedom to respondents, and permits data with more depth (Mackey & Gass, 2005). The questionnaire constructed for this study contained both close-ended and open-ended questions to allow an understanding of the processes and approach undertaken by the subjects in planning and writing the short story.

The questionnaires were tailored for each of the three task conditions. They sought to elicit information on how the participants planned the task in terms of content, sequence of events and language. Most of the answers to the questions were close-ended so that the participants would not need to spend too much time writing the answers, and also that results could be analyzed systematically. However, a few open-ended questions were devised in order to obtain individual insights and comments from the participants. The questionnaires are attached in Appendix B.

There were some uniform questions across the 3 types of questionnaires. For each task group, participants were asked how they felt about the level of difficulty of the writing task. They were also asked to list any problems they encountered during the task

and to state the most difficult part of the writing process. Moreover, all participants were queried about their emphasis in writing an essay, whether they focused on planning the content, using the correct words or avoiding errors in the language. They were asked if they used any other language besides English while performing the task. Additionally, participants were asked to give their opinions about whether they thought planning was necessary prior to writing this story and also in general, and whether they planned in advance before writing an essay

Besides these uniform questions, each type of questionnaire had questions tailored to each task condition. They are discussed in the following section.

3.3.2.1 Questionnaire for No Planning (NP) Task Condition

As one of the conditions of the NP task was that no planning time was given, this questionnaire asked what the participants would have focused on if planning time had been allowed in the task, and on how they would have planned their work (Question 5). As limited time was also a condition of this task, participants were asked how they think they would have fared if more time had been allocated for writing (Question 7).

3.3.2.2 Questionnaire for Pre-Task Planning (PTP) Task Condition

The PTP task condition allowed 10 minutes of planning time. Hence, this questionnaire listed questions with regard to what participants focused on during the planning time and during the writing time, and how they used the time allocated for both (Question 5). As the planning notes were taken away before they started writing, they were asked how this affected their task performance (Question 9).

3.3.2.3 Questionnaire for Within-Task Planning (WTP) Task Condition

In the WTP group, the participants did not have any planning time but were asked to write immediately. Thus in this questionnaire, they were asked how this affected their task performance (Question 7). They were also asked what they focused on during the writing task and how they used their time (Question 5). Also this questionnaire sought to obtain comments from the participants on how they would have performed if planning time had been given prior to writing (Question 8).

3.3.3 Semi-structured Interviews

Interviews are conducted to get information from participants through a dialogue, and those which are in-depth revolve around a particular subject which the interviewer wants to gain information about. Its purpose is to gather data from the interviewee's perspective (Hesse-Biber & Leavy, 2006). Interviews can be either open-ended or structured in nature. In open-ended interviews, the researcher allows more freedom to the respondent to express his thoughts without being hindered by a series of structured questions (Gillham, 2005), while structured interviews follow a predetermined sequence of questions (Fontana & Frey, 2000).

In semi-structured interviews, there is a balance between a structured and an unstructured format. Questions sometimes are not asked sequentially; rather, the interviewer has the flexibility to change the order of the questions depending on the responses from the interviewee (Kvale, 1996). Probes are used sometimes if the researcher feels that more could be revealed during the interview, but the duration of each interview would be about the same (Gillham, 2005). Lavelle and Zuercher (2001) used semi-structured interviews in their study of university students' writing approach because it allowed them "maximum opportunities" (p.380) for gathering data of "depth and expansion" (p.380).

Interviews can be used to draw frank comments from participants and sometimes individuals can be outspoken in their responses (Stewart & Perry, 2005). During the course of an interview, the interviewer can verify his interpretation with the interviewee, which can clear any doubts that may arise (Kvale, 1996). Conversely, the interviewee can also request the researcher to explain any questions which are unclear, so there is less chance of a misunderstanding (Kumar, 2005). The drawback may be that interviewees who are not proficient in the language may not be able to express their thoughts fluently and thus not provide important data. Sometimes, elements of prejudice may surface in an interview and result in biased data (Seliger & Shohamy, 1989). Moreover, conducting interviews can also be time-consuming and difficult to administer if the interviewee is not cooperative.

The researcher did not want to conduct a very formal interview so that participants would feel at ease when being interviewed. Thus semi-structured interviews were used to understand the subjects' reasons for performing the tasks in a certain manner, and their attitude towards the task. The interview permitted the researcher to hear the actual words spoken without having to interpret just from the questionnaires, as it is not unusual for researchers to have some questions regarding the answers given by questionnaire respondents. Thus it facilitated data analysis and triangulation.

Sometimes it is easier for participants to express their thoughts verbally rather than pen it down. With semi-structured interviews, the participants can explain in a language that they are more comfortable in, like Mandarin or Bahasa Melayu, which the researcher can then interpret into English. This further allowed more flexibility in the interview process as they could express themselves better.

Two participants from each group were interviewed after the tasks were performed and questionnaires administered. Questions revolving around planning, writing, revision and attitudes towards writing were asked in English, Mandarin and

Bahasa Melayu, without a "fixed wording" (Minichiello, Aroni, Timewell, & Alexander, 1995, p.65). Selection of participants to be interviewed was based on two criteria. The first criterion was the quality of the narrative written. The second criterion was the willingness to be interviewed. Participants whose essays were relatively well-written or poorly-written were identified to be interviewed and among these, those who were friendly were selected to discuss the task given. During the semi-structured interviews, the data collected from the questionnaire and the planning notes were used as references. Answers from questionnaires which the researcher thought might need some elaboration also served as an interview question. The interview questions can be found in Appendix C.

3.4 Procedure

The researcher made arrangements to meet the participants individually according to their availability. The tasks were carried out in conducive environments such as in empty classrooms, the common room, the library, and an open discussion area outside the library where there were tables and chairs. Before the task commenced, the set of pictures with the writing prompt was covered and placed in front of the participants. A blank piece of writing paper was also given to them to write the story. Then the researcher read out the instructions of the task to the participants and ensured that the participant understood what was expected to be done under the particular task condition.

For the NP group, the timing of the task was started immediately when the set of pictures was uncovered and stopped when the 11 minutes were up. For the PTP group, an additional piece of paper was given to the participants to plan the writing task. The planning time was started when the set of pictures was uncovered and stopped when the planning time limit of 10 minutes was reached. Then the planning paper was taken away

from the participants. A new time limit was started for the participants to write and it was ended when 11 minutes were up. For the WTP group, the time limit was started when the set of pictures was uncovered. It was stopped as and when the participants finished writing.

3.5 Data Analysis

The data for this study was analyzed both quantitatively as well as qualitatively. Quantitative analysis was performed using Excel 2007 to answer Research Question 1. Qualitative analysis based on data from the questionnaires and interviews was carried out to answer Research Question 2.

Data analysis with regard to Research Question 1 comprises three parts; it compares the effects of the three planning conditions, i.e. NP, PTP and WTP on the fluency, complexity and accuracy of the students' narrative writings. Specifically, as can be seen in Table 3.2, the results of the NP condition will be compared with that of the PTP condition, and then with the WTP condition. The outcome from the PTP condition will be discussed vis-à-vis the WTP condition.

Table 3.2 Task conditions in relation to research question 1 (RQ1)

Task condition	Time allocated for pre-task planning	Time limit for writing	Task condition in relation to RQ1		
			NP-PTP	NP-WTP	PTP-WTP
No planning (NP)	None	Limited (11 mins)	√	√	
Pre-task planning (PTP)	10 minutes	Limited (11 mins)	√		√
Within-task planning (WTP)	None	Unlimited		√	√

As the current study assesses the fluency, complexity and accuracy of written texts, the sections below give an overview of research done on fluency, complexity and accuracy in writing with the purpose of describing some of the measures used by researchers to evaluate fluency, complexity and accuracy to provide a background and to explain the measures adopted for this study.

3.5.1 Measures of fluency

Ellis and Barkhuizen (2005) claimed that learners who want to achieve fluency will perform the task in such a way that meaning takes precedence over form. They proposed that learners who produce complex language are more willing to "take risks" in using different language structures (Ellis & Barkhuizen, 2005, p.139). Learners who emphasize accuracy in their tasks usually use the L2 that is "fully internalized" within them and they maintain a cautious approach in using L2 (Ellis & Barkhuizen, ibid).

In contrast, according to Wolfe-Quintero, Inagaki and Kim (1998), fluency is not related to the level of difficulty in the language written, but how much the writer can write within a specified length of time. Chenoweth and Hayes (2001) took this into consideration when they measured fluency by the number of words written per minute, as did Chandler (2003). Ellis and Yuan (2004) measured fluency by the number of syllables per minute and the number of dysfluencies (words that are cancelled out and changed during the course of the writing). Wigglesworth and Storch (2009) on the other hand, measured fluency by the average number of words, T-units and clauses produced in the written essay, and Larsen-Freeman (2006) used the average number of words per T-unit. These researches reveal that there are several different acceptable ways to measure fluency.

3.5.2 Measures of complexity

Likewise, there are also different ways to measure syntactic complexity. Hunt (1965, as cited by Way, Joiner & Seaman, 2000) proposed that a good method to measure syntactic complexity is to take the mean length of T-units, and this was used in Way, Joiner and Seaman's (2000) study. A T-unit is defined as "an independent clause and all its attached or embedded dependent clauses" (Wigglesworth & Storch, 2009, p.464). The mean length of T-units is measured by dividing the total number of T-units by the number of words in the text:

$$\text{Mean length of T-units} = \frac{\text{Total number of T-units}}{\text{Number of words in the text}}$$

Lim (1983) used T-units to assess the writing proficiency of university ESL students but found that this group of proficient writers did not produce more or longer T-units compared with the rest. Thus for his study, T-units was not a good measure of syntactic complexity because it did not throw any light on the data. Bardovi-Harlig (1992) in her article about T-unit analysis also argued that T-unit analysis could misjudge the knowledge level of adult learners, and that sentence analysis can more accurately assess the learner's syntactic complexity. In view of this, Storch (1999) used the ratio of clause to sentence to measure syntactic complexity. Ransdell (1995) used mean clause length to measure syntactic complexity. Clause to T-unit ratios (Ellis & Yuan, 2004; Ojima, 2006; Larsen-Freeman, 2006; Wigglesworth & Storch, 2009) and the percentage of dependent clauses to all clauses (Wigglesworth & Storch, 2009) have also been used to account for complexity. The number of words per T-unit has also been measured to indicate complexity (Ojima, 2006). Foster and Skehan (1999) used the number of clauses per c-units, where c-units are composed of independent clauses and can include finite or non-finite dependent clauses.

The conventional way of determining complexity is to measure the amount of subordination used by the learner, where the increase in subordination is proportionate to that of complexity (Ellis & Barkhuizen, 2005). On the other hand, complexity can also be determined lexically using Type Token Ratio (TTR), which is the ratio of different words to the total number of words in the text:

$$\text{Type Token Ratio (TTR)} = \frac{\text{Number of different words}}{\text{Number of words in the text}}$$

However, obtaining a high TTR is more likely in a short text than in a long one, where the higher the TTR, the more complex the language. Bonzo (2008) used TTR to measure fluency but he notes that this measure is unable to distinguish between a longer essay and a shorter one when the ratio is the same. This issue can be resolved by using the Mean Segmental Type Token Ratio (MSTTR) (Ellis & Barkhuizen, 2005). Using this measure, the text can be grouped into segments of a certain number of words. The TTR of each segment is then obtained by dividing the number of different words in the segment by the total number of words:

$$\text{TTR of one segment} = \frac{\text{Number of different words per segment}}{\text{Number of words in segment}}$$

The MSTTR is then obtained by summing the TTR of all the segments and dividing it by the total number of segments (Ellis & Yuan, 2004):

$$\text{Mean Segmental Type Token Ratio (MSTTR)} = \frac{\text{Sum of TTR of all segments}}{\text{Total number of segments}}$$

Larsen-Freeman used a different TTR, which was the "word types per square root of two times the words" to measure vocabulary complexity (p.597). This complicated measure ensured that the length of the text was taken into account.

3.5.3 Measures of accuracy

According to Ellis and Barkhuizen (2005), accuracy can be measured by examining the different grammatical forms and number of correct clauses used. By and large, measurement of accuracy has been performed by obtaining the percentage of error-free clauses (Foster & Skehan, 1999; Storch, 1999; Ellis & Yuan, 2004; Ellis & Barkhuizen, 2005; Ojima, 2006; Wigglesworth & Storch, 2009). Ellis and Yuan (2004) also used the percentage of error-free verb forms to measure accuracy. Accuracy can also be measured by taking the percentage of error-free T-units (Way, Joiner & Seaman, 2000; Larsen-Freeman, 2006; Wigglesworth & Storch, 2009). Chandler (2003) rated accuracy by counting the number of grammatical errors made.

3.5.4 Measures used for the present study

As the discussion above shows, many different measures of fluency, accuracy and syntactic complexity have been used in research in accordance to the conditions of the tasks. Each is valid for the purposes of the particular individual study done. However, these differences imply that results obtained from any study can only be compared to previous studies using a certain measure and the same applies to the present study.

In this study, the independent variable was planning, and the dependent variables were fluency, complexity and accuracy. Their measures were borrowed from Ellis and Yuan (2004) and were adapted for the current study and are listed below:

3.5.4.1 Planning

Planning, the independent variable, was measured by the writing time taken and the number of words and syllables produced by each participant. The word and syllable count in the independent variable was meant as a check to distinguish the three planning conditions.

3.5.4.2 Fluency

In each written narrative, fluency was measured by counting the syllables per minute and the number of dysfluencies. Dysfluencies are words that are cancelled out and changed during the course of the writing. Wrongly spelled words were also taken into account. The researcher would like to draw attention to the fact that the syllable count per minute for fluency in writing differs from the syllable count as the variable for planning (see above).

3.5.4.3 Syntactic Complexity

Syntactic complexity was measured by counting the number of different verb forms used in each written narrative. These include tenses (e.g. present and past tense) and modality.

3.5.4.4 Accuracy

Accuracy was measured by the percentage of error-free clauses and correct verb forms.

3.6 Conclusion

The researcher sought to use appropriate tools described in this chapter to gather and analyze the data for the study. The next chapter discusses in detail the findings from the data analyzed.