INVESTIGATING THE EFFECTIVENESS OF PROCESS GENRE-BASED APPROACH TO TEACHING TECHNICAL WRITING IN A HIGHER LEARNING INSTITUTION

by

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Thesis submitted in fulfillment of the
requirements for the degree
of Doctor of Philosophy

JUNE 2006

ACKNOWLEDGEMENTS

I wish to dedicate this work to my beloved parents, Md. Nordin b. Md. Nor and Halimah bt. Hj. Jaafar, who have always been a constant source of inspiration to me in my pursuit of education to the highest levels. The dedication also goes to my beloved brothers and sisters: Nadiah, Fahariyah, Fadzli, Fauzi and Rabiatul Adawiyah.

In completing this thesis I am greatly indebted to my supervisor Dr. Norhisham bt Mohamad, without whose knowledge and insight, I would not have been able to come this far. My highest appreciation goes to her for guiding me through every step of the way.

My heartfelt thanks to my immediate superior, Encik Mohd Noor Rosli b. Baharom, and my fellow colleagues and friends in General Studies Programme, Universiti Teknologi PETRONAS, for the abundant assistance and support I received throughout my studies. I am especially thankful to Associate Professor Dr. Mohamed b. Haleb for his constant support and guidance throughout the duration of this research work.

Most of all, I want to thank my dear husband, Mohd Zairee Shah b. Mohamed Shah, for his continuous support and encouragement. My thanks also go to my beloved daughter Hannan Balqis, for her patience and affection.

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MENYELIDIK KEBERKESANAN PENDEKATAN PROSES BERASASKAN GENRE DALAM MENGAJAR PENULISAN TEKNIIKAL DI INSTITUSI PENGAJIAN TINGGI

ABSTRAK

Terdapat beberapa pendekatan di dalam pengajaran penulisan di dalam sejarah pengajaran bahasa yang telah membawa kepada beberapa anjakan paradigma di dalam bidang ini. Bagaimanapun, kebelakangan ini terdapat perbahasan tentang perbezaan di antara pendekatan utama kepada pengajaran penulisan iaitu pedekatan berasaskan hasil penulisan, pendekatan proses penulisan dan pendekatan berasaskan genre. Perbahasan tersebut telah mengakibatkan percanggahan dan persaingan pendapat di dalam bidang pengajaran penulisan. Maka kajian penyelidikan ini cuba mengetengahkan perbincangan tentang pendekatan-pendekatan tersebut, seterusnya mencari jalan bagi mensintesiskan kekuatan pendekatan-pendekatan tersebut. Kajian ini juga menyelidik keberkesanan sintesis tersebut dalam pengajaran penulisan teknikal di dalam konteks institusi pengajian tinggi.

Kajian ini adalah berdasarkan kepada rekabentuk eksperimen tulen di mana ujian pra dan ujian pos telah di jalankan ke atas kumpulan kawalan dan kumpulan eksperimen. Kajian kuantitatif ini dilaksanakan dengan membandingkan purata markah yang diperolehi oleh kumpulan eksperimen yang menggunakan pendekatan proses berdasarkan genre; manakala kumpulan kawalan menggunakan pendekatan yang digunapakai di institusi kajian iaitu pendekatan yang berasaskan genre. Seratus tiga puluh lapan pelajar kejuruteraan telah dipilih secara stratifikasi rawak dan diletakkan secara rawak ke kumpulan kawalan atau kumpulan eksperimen.

Data menunjukkan terdapat perubahan signifikan di dalam purata markah yang diperolehi oleh kumpulan eksperimen berbanding dengan kumpulan kawalan apabila penulisan mereka diperiksa secara holistik. Hal ini membuktikan bahawa pedekatan proses berasaskan genre adalah berkesan dan relevan kepada pengajaran penulisan teknikal di institusi pengajian tinggi. Bagaimanapun kajian lanjutan wajar dilaksanakan untuk terus membuktikan keberkesanan pendekatan tersebut.

INVESTIGATING THE EFFECTIVENESS OF PROCESS GENRE-BASED APPROACH TO TEACHING TECHNICAL WRITING IN A HIGHER LEARNING INSTITUTION

ABSTRACT

There have been numerous approaches to the teaching of writing in the history of language teaching that consequently led to several paradigm shifts in the field. In recent years however, there has been emphasis and debate on the differences between the major approaches - the product approach, process approach and the genre-based approach. Such debate has resulted in many conflicting and competing views in teaching writing. This thesis thus offers some discussion of these approaches and looks for ways to synthesize the strength of these major approaches. This research study further investigates the effectiveness of such eclectic approach to teaching of technical writing in the context of a higher learning institution.

This research is based on a true-experimental design in which a pre-test and a post-test were administered to the control and experimental groups. This quantitative study compares the mean scores gained by the subjects in the experimental group, adopting process genre-based approach, to those in the control group, adopting the existing approach in the institution - the genre-based approach. One hundred thirty eight engineering students were selected through stratified random sampling. They were then randomly assigned to either the control group or the experimental group.

The findings revealed that the learners' writing in the process genre-based approach group achieved significantly higher marks in the raters' scores than the learners' writing in the genre-based approach group when they were holistically measured. It is then concluded that the process genre-based approach is effective and relevant to the teaching technical writing in a higher learning institution. Further research on such approach however, need to be carried out to further verify its effectiveness.

CHAPTER ONE
INTRODUCTION

1.0 Introduction

The area of second language writing has been a "dynamic field" (Matsuda, 2003c: 15), witnessing fluctuations of "intellectual currents" (Matsuda, 2003a:153-79). Leki (2000) acknowledges that writing has gained an increased attention over the last twenty years, experiencing explosion of research on second language (L2) writing since 1990 (see Leki, 2001:18). As noted by Polio (2003: 35), "...during the past twenty to twenty-five years, the amount of empirical research on L2 writing has been increasing exponentially and shows no signs of diminishing". Thus in the last two decades we have seen discussions on the theoretical assumptions and research on teaching English as Second Language (ESL) writing pedagogy. The teaching of writing in L2 contexts, once little discussed (see Blanton & Kroll et al., 2002), has now become central in the profession of applied linguistics (Kroll, 2003: 3).

Historical accounts of studies in L2 writing however indicate that writing issues had actually began to attract serious attention from L2 specialists way back in the 1960s (see Leki, 1992; Raimes 1991; Silva 1990, cited in Matsuda 2003c). There have been many forms of enquiry on how writing actually works and how it should be taught which the findings led to several paradigm shifts in writing pedagogy. Numerous approaches to teaching writing have evolved throughout these years. The three major approaches on how writing should be taught are the product approach, the process approach and the genre approach (see Tribble, 1996). Each of these approaches has different focus, emphasis

and research methods (see Polio 2003; Hyland 2002). For example, Raimes (1993:237-60), and a more recent account, Hyland (2002:5-48), suggested three principal ways to identify the views to teaching writing: focus on the form/text, focus on the writer, and focus on the reader.

These three perspectives to teaching writing outline "three major movements in the teaching of writing" (Tribble, 1996:37). Reported in Silva (1990), ESL writing pedagogy had actually begun in the 1940's where the focus is on form (syntactic level). Such teaching had soon given way to the "current traditional trend" – the product approach. Product-centered curriculum, that has traditionally dominated writing courses in the 1960's, focused more on an analysis of texts after they are produced ('products'). When process-centered ideas took shape in the late 1970's/early 1980's (Raimes, 1985:229-58), writing pedagogy seeks to shift emphasis away from the product to the process of producing the text itself. However L2 writing practitioners and researchers such as Kern (2000), Johns (2002) and Hyland (2003b), argue that the process approach does not acknowledge the influence of socio-cultural context on individual processes, bringing to the forefront the notion of genre. Hyland (2003a), for instance, notes that the genre approach is a shift "from a highly restricted view of human activity over-reliant on psychological factors, to a socially informed theory of language...." (p.18).

In recent years however, there has been emphasis and debate on the differences between the major approaches - the product-based approach, process-based approach and the genre-based approach. Such debate has

resulted in many conflicting and competing views in teaching writing and eventually led to "a rather unproductive approach cycle" (Silva, 1990:18).

This thesis thus offers some discussion of these approaches and looks for ways to synthesize the strength of these major approaches. Such synthesis is drawn from Badger's and White's process genre-based model to teaching technical writing (2000:183). This research study further investigates the effectiveness of such eclectic approach to teaching technical writing in the context of a higher learning institution.

This chapter will further discuss the context of the problem and the definition of the research problem. This chapter also presents the research objectives and the research hypotheses. The chapter ends with a section on the significance of the study.

1.1 Context of the Problem

The process approach has been very influential and widely adopted in L2 writing classrooms. However an increased attention in learners' practical needs has given rise to the importance of writing skill in certain genre or type of text. Consequently, the L2 writing classes in the eighties focused more on the social aspects of writing (see Brooks 1995), bringing to the forefront the importance of genre.

There has indeed been an increased attention on the notion of genre in the teaching of writing. A line of research has been conducted in various

professional and technical contexts to investigate types of writing used in contexts outside the school. Nickerson (2005:367-380) reviews research studies that investigate the role of written and oral communication in English language used by business community at work e.g. meetings, e-mail. Nickerson (2005) then explores the implications of the findings of such research to be incorporated into the teaching pedagogies in the classroom. Nickerson urges practitioners to "apply these research findings both in the development of appropriate teaching materials" and in the classroom pedagogies (p.375).

There has been a line of research that investigates and examines the relevance between writing in the school contexts and other contexts. It is also to determine the degree of effectiveness of school writing, in terms of its relevance to other contexts (see Grabe and Kaplan, 1997: 147). As reported in Tribble (1996:74-82), "researchers have now acknowledged that most uses of writing are tied to situations which extend well beyond the educational context...writing is now studied in many professional and technical contexts, as well as in the workplace".

Most writing teachers' concern is whether the learners will be able to write effectively in their future writing tasks and in the context of their workplace after leaving the university. In the USA for instance, reported in Grabe and Kaplan (1997: 148), technical writing courses at tertiary levels are taught to learners in technical and pre-professional fields. The underlying assumption of these courses is that learners "need to learn special ways to write" for example memorandum, reports, proposals, and to ensure that their learners "become

familiar with format and genre norms of that technical/ professional/ business discipline" (Grabe and Kaplan, 1997: 148).

Likewise, by adopting the genre approach to teaching writing, the aim of the Technical and Professional Writing course in Universiti Teknologi PETRONAS (UTP) is to introduce learners to professional and technical writing and to guide the learners to write the different kinds of technical writing effectively.

1.1.1 The Current Technical Writing Course in UTP

The Technical and Professional writing course offered in UTP is a compulsory subject to all students. The underlying rationale is that the learners need to learn specific ways to write (e.g. memorandums, proposal, reports). Such technical writing course trains students in document design and bureaucratic usage (by considering the audience and its purpose that determine the structure of the text, the use of tone, the choice of content and style). As such, the course is purely genre-based approach that stresses on the importance of 'audience'. In line with Johns's (1994:87) suggestion, these L2 writing learners are taught about how to conduct audience analysis as "real audiences can be researched and real tasks and communities can be addressed". Writing therefore in this course stresses on the notion that writing varies with the social context where it is produced, that we have many kinds of writing with different situations (see e.g. Flowerdew, 1993).

The main objective of this course is to help learners to write the different kinds of technical writing in their future writing tasks. With this in mind, the learners are exposed to good models of many types of technical writing as materials. As pointed out by Marshall (1991), "learners are often found incapable to replicate the expert generic models due to their communicative and linguistics deficiencies" (cited in Flowerdew, 2000:370). Thus it would probably be more motivating if learners could be exposed to "good 'apprentice' generic exemplars, which can provide a realistic model of writing performance for undergraduate students" (Flowerdew, 2000:370). In general, learners are taught various types of technical writing e.g. how to write memorandums, proposals, recommendation/ feasibility reports, formal reports, instructions, descriptions etc. (see Appendix A for the syllabus of the course), which they will have to produce in their future writing tasks and professional discourse community.

The syllabus of the current technical writing course in UTP therefore follows very closely the three stages of genre approaches to writing, identified by Dudley-Evans (1997: 154), which include:

- First stage – A model of a particular genre is introduced and analyzed (e.g. a formal report) (see Appendix B);
- Second stage - Learners then carry out exercises to manipulate relevant language forms e.g. passive form in report writing or language forms in writing a set of instruction (see Appendix C) and finally;

- Third stage – Learners produce a short writing text reflecting the level of knowledge and background of the target audience and the language forms of that specific genre exposed to them earlier in the class (see Appendix D).

Such genre approach to teaching technical and professional writing however has its limitations, which are addressed in the following section.

1.1.2 The Problem

As technical communication plays an important role in professional work today, professional technical persons are frequently expected to write different types of technical reports, manuals, instructions, proposals etc. Because of its importance in the professional discourse community, technical writing becomes an important component in the Engineering and Technology courses in tertiary institutions, where students are prepared for their future work environment. As such, the Technical Writing course offered in Universiti Teknologi PETRONAS (UTP) is designed based on the assumption that what is taught in this course will help these learners, who will continue their studies in English language medium, to function effectively in their future writing tasks and in their future workplace.

There is however a major concern voiced by the learners' content courses lecturers on the quality of the learners' writing that they worry the learners will not be able to participate effectively in their professional community and workplace. Even though the learners have reached an advanced level in

the institution, their level of writing competency seems to be lower than expected. The number of students, who are not able to produce fluent documented technical writing that their instructors expect them to produce, is very alarming.

Amongst the comments (or rather complaints) received from the engineering lecturers include poor sentence structures and some serious grammatical errors that can affect reader's (the lecturer's) understanding of the whole text (of technical reports e.g. lab report). Other 'glaring' mistakes are in the way they present and use their visual aids, table of contents and references, tone, sentence structures, which all of these are covered and taught in the Technical and Professional Writing course (see Appendix A) in UTP. The lecturers thus worry that their students, upon graduation, will not be able to function effectively in their future writing tasks and in their future workplace.

The problem however is not localized to UTP but globally as well. There has indeed been a major concern over the quality of L2 writing, which has been a predominant issue especially in higher learning education. It is widely acknowledged that technical and scientific writing is not an easy task especially for L2 learners.

Within the framework of English for Academic Purpose (EAP), for instance, Hawkins and Pea (1987:291-307) noted that science learning is a transition of "everyday thinking" to formal science, which is a matter of learning new culture, not just new facts and concepts. On similar grounds, Mustafa

(1995:247) mentioned that writing term papers is found to be a challenging task for undergraduate students especially if they are written in a foreign language (Bridgeman & Carlson, 1984; Shih 1986 cited in Mustafa, 1995:247).

On a similar ground, Kroll (2003), acknowledges that "over the past quarter of a century or so, faculty and researchers in many countries around the world have increasingly recognized that teaching English writing skills to tertiary-level students who come from non-English speaking backgrounds is a critical part of the higher education system" (p.2). These L2 writing students' struggle in producing a piece of technical paper is reflected in the product of their work. English L2 writers are seen as disadvantaged in a very basic way as they are seen as "handicapped" (Leki, 2001:21) – having to write in a second language. As such, cited in Janopoulos (1995:44), Ballard and Clanchy (1991) revealed that native-speakers content lecturers are found "torn between making allowances for the understandable problems of students struggling in a strange language and yet maintaining rigorous academic standards...." (p.20). However, if these lecturers choose to apply a more tolerant standard to the L2 writing learners (see Janopoulos, 1995), it is worried that these learners may face difficulty "to stay within the 'rules' of the game" (Hamp-Lyons, 1991a: 102) since they will still be asked to "demonstrate readiness for membership in a community with which they may be wholly unfamiliar" (Hamp-Lyons, 1991b: 57).

The complex literacy problems that learners face in their writing tasks has many possible causes e.g. overburden workload, crowded classes, insufficient reading, family background, time constraint etc. As suggested by

Johns (1995:181) however, we may also want to consider other causes that may be directly linked to the teaching approaches. A look back into the teaching approach adopted in technical writing courses would perhaps be able to shed some light into how these L2 writers could be helped in their struggle to produce effective technical and scientific texts. There have been a number of concerns raised in response to the genre approach adopted in many higher learning institutions including UTP. Such concerns mostly come from its opponents. To probe deeper into the practitioners' view of the genre approach, Kay and Duddley-Evans (1998) conducted a study to investigate what teachers think about the approach. There were indeed positive points reported that include allowing learners to make sense of the world around them and to participate in it, to enter a particular discourse community, to discover how writers organize text. But there were also concerns raised by the respondents. There is a danger of the approach being prescriptive and restrictive, "leading students to expect to be told how to write certain types of text" (p. 311). There is also a fear that the genre approach becomes text-centered approach rather than student-centered, focusing on reproduction of the products.

Amongst other concerns raised is "the potential of overuse of text transformation activities" (Brakus, 2003:15). Brakus, quoting Caudery's (1998:11-13), acknowledges that learners in the genre approach may not be required to express their own ideas but rely on the teacher finding the appropriate model. As a result, the genre approach may give "an imposed rather than a responsive notion of text" (Kay and Dudley-Evans, 1998:311).

Another concern is raised in Freedman (1993:246-7) where it is noted that attempts to teaching genres explicitly is considered detrimental unless if the learner is prepared to write texts comprising particular and limited genres. Freedman emphasizes the limited role of explicit teaching in the genre approach. It is argued that explicit teaching of genres "imposes restricted formulae which can straightjacket creativity through conformity and prescriptivism; that genres might be taught as moulds into which content is poured, rather than as ways of making meanings" (reported in Hyland, 2003a:9).

Flowerdew (1993) suggested that since learners need to be competent in a number of genres, "...they will need the skills to adapt to and acquire a wide range of new genres". In his paper, Flowerdew quoted Widdowson (1883:264-74) and Larsen-Freeman (1983) that an appropriate approach should be educational rather training, which emphasizes on the process of acquiring new genres, instead of the product. Larsen-Freeman, reported in Flowerdew (1983:306), juxtaposed the two approaches as presented in the following table:

Table 1.1 Comparing the educating process and the training process (Larsen-Freeman, 1983)

The educating process	**The training process**
• The educating process is individual-oriented. Objectives are more general and are stated in terms of developing an individual's skills so that he or she can adapt to and function in any situation. • Students are educated to be independent learners: to have the capacity to generate their	• The training process is situation oriented. Since the trainer can customize the training to the situation, finite objectives can be specified. • The content of the training program can match to the finite objectives. The information is transmitted from the trainers to the trainees.

own learning as needed. • Students learn how to set objectives, define problems, generate hypotheses, gather information, make decisions, and assess outcomes. The emphasis is on the process not the outcome. • Since objectives are more open-ended, assessment is based on the progress students have made towards meeting the objectives. Success is more relative than absolute.	• Trainees are expected to do as the trainer (or the acknowledged model does. The emphasis is on obtaining results that conform as closely to the model as possible. • Criteria for success can be specified. Measurement of these and therefore knowledge of the degree of the trainer's success is immediately attainable.

Flowerdew further gave some suggestions on how learners can approach, adapt to, and finally acquire the new genres. He argued that many ESP courses "are often quite narrow (hence the term narrow-angle' ESP, also referred to 'hard-core') and courses can focus on one or a limited number of particular genres" (p.309), and therefore suggested a move away from such product-oriented description of genres. Flowerdew (1993:309) had suggested six activities to help learners understand a particular genre. The six activities are:

1. Using the result of genre analysis
2. Metacommunicating (talking about instances of genre)
3. Learners doing their own genre analysis
4. Concordancing
5. On-line genre analysis by learners as an aid to creating their own texts
6. Translation based on samples of instances of a given genre

Tribble (1996:57) agrees that writing instruction should perhaps give way to the educational paradigm (as presented in table 1.1). Tribble (1996:59)

however adds and gives further suggestion to continue build on the approach proposed by Flowerdew. The proposed cycle of activities can be added to the recursive nature of the writing process (in the process approach to teaching writing) to "provide opportunities for the teacher to draw students' attention to contextual and textual features of genres as part of a language awareness raising programme, or allow students to come up to their own conclusions about aspects of text or context" (Tribble, 1996:59). Such approach to teaching writing integrates the genre and process approaches where "it is possible to see the emergence of the effective solutions to learning and teaching problems in writing instruction which draw on the strengths of both process and genre approaches...." (Tribble's model of process and genre approach to teaching writing will be further elaborated in section 3.4.1).

As mentioned by Bamforth (1993:97) in his comments about the process and genre approach, "...effective methodology will call upon both approaches". This study thus proposes an eclectic approach to teaching technical writing, which may be helpful to overcome problems that the learners encounter in their future writing tasks. Theorists, researchers and practitioners like Flowerdew (1993), Bamforth (1993), Watson (1996), Tsimouris (1997), Badger and White (2000), Caudery (1996), Cotterall and Cohen (2003), and Brakus (2003) argue that such synthesis of approaches to teaching writing will bring about improvement in the learners' writing. A substantial amount of research evidence lends a support on the effectiveness of such eclectic approach to teaching technical writing. Coterrall and Cohen (2003), for example, described an approach to teaching writing, which seems to incorporate the genre-based

approach (e.g. to get the learners familiarized to the types of texts and tasks in their academic context) and process-based approach (e.g. multiple-drafts and regular feedback from peers and tutors). They argued that the approach they adopted promotes learners autonomy that will be able to improve learners' writing.

Brakus, P (2003) carried out a study that incorporates the genre approach and the process approach. He had carried out a descriptive study through observations and questionnaires where his findings indicate that the synthesis of these approaches could be a useful move to improve learners' writing. (Further elaboration on their study and research will be presented in the literature review chapter in this thesis.)

The effectiveness of such eclectic approach, which has not been elaborated and determined significant in affecting students' improvement in L2 writing, is what this study will seek to evaluate. Eclectic approach in the context of this study would mean, approaches to teaching writing i.e. the process-based approach and the genre-based approach, are seen as complementary rather than opposing one another. The researcher chooses to integrate only the process and genre approaches as the genre approach, in many ways, can be seen as an extension of the product approach (Badger and White, 2000). The origins, the similarities and the differences of these two approaches will be further explored in the literature review section.

This research thus seeks to investigate the effectiveness of process genre-based approach, drawn from Badger's and White's (2000) model, to teaching technical writing in a higher learning institution. In the investigation, the effectiveness of the process genre-based approach will be compared to the current approach adopted in Technical and Professional writing course in UTP, the genre approach.

1.2 Statement of the Problem

This study therefore attempts to answer the following research question:

> Will the learners who are taught writing lessons using the process genre-based approach indicate an improvement in the achievement in second language technical writing?

This question merits investigation for two reasons:

1. If the writing of learners in the process genre-based approach classroom achieved a significantly higher mark for the rater's score compared to the writing of the learners in the genre-based approach classroom, it would indicate a serious threat to the effectiveness of genre-based. On the other hand, if the writing of the learners in the process genre-based approach classroom achieved a significantly lower mark for the rater's score compared to the writing of the learners in the genre-based approach classroom, it would indicate a serious threat to the effectiveness of process genre-based approach.

2. If such a threat to the genre-based approach exists at this higher learning institution, the same scenario may exist in other higher-learning institutions adopting the same approach to teaching technical writing.

This research employs an experimental method where the process genre-based approach as the experiment and the genre approach as the control. The research method, the instrument used and the method of analysis will be discussed in chapter four.

1.3 Research Objective

The main purpose of this study is to investigate if second language technical writing learners may benefit from process genre-based approach. Effectiveness of the approach is evaluated through analyzing the raters' scores of the learners' writing. The investigation seeks to investigate possible improvement in learners' achievement in second language technical writing.

The objectives of teaching technical writing in this approach are to: introduce to the learners to professional and technical writing; guide these learners to internalize the technical writing skills and the standards necessary to produce good and clear technical writing; facilitate learners to gain better understanding of the recursive nature of writing and develop self-editing and revising skills.

1.4 Research Hypothesis

Based on the research objective mentioned above, the research is focused at more specific questions as below:

i. How can a syllabus for the teaching of technical writing be produced that combines a process-based and a genre-based approach?

ii. Is there a significant difference in the raters' scores between the learners' writing in the process genre-based approach group compared to the learners' writing in the genre-based control group when the raters' scores are measured holistically?

iii. If there is a significant difference, do the learners' writing in the process genre-based approach achieve a significantly higher or a significantly lower mark in the raters' score than the learners' writing in the genre-based approach when the raters' scores are measured holistically?

iv. Is the effect of process genre-based approach on the learners' scores similar for male and female learners?

Based on these research questions, the research hypotheses including the null hypotheses can be stated as below:

H_0: There is no significant difference in the raters' scores between the control group and the experimental group

H_1: There is a significant difference in the raters' scores between control group and the experimental group

The research hypotheses are non-directional allowing the possibility that the existing relationship will be in one direction or the other.

Based on the research questions and the formula for the research hypotheses above, the research hypothesis for this study is as below:

Hypothesis: There is a significant difference in the raters' scores between the learners' writing in the classroom using process genre-based approach compared to the learners' writing in the classroom using genre-based approach when the raters' scores are measured holistically.

The findings of this study will provide a future direction for further research in the field of second language writing.

1.5 The Scope of the Research

The genre approach to teaching writing has received a number of criticisms by its opponents. Some teachers raised their concerns on the effectiveness of the approach. However, recently there have been suggestions and recommendations for an eclectic approach to teaching writing, synthesizing the strengths of the process approach and the genre approach. This study therefore seeks to contrast the genre approach with the process genre-based approach to teaching technical writing in the context of higher learning institution.

1.5.1 A Statement of Assumption

i. Generalizing the findings

Since the researcher wishes to generalize the findings from the sample to the population, it is important to assume that the subjects used to obtain the sample data are randomly selected. The task is accomplished when the sample data of this research are used to test the hypothesis about the population. Therefore, the sample is assumed to be representative of the population from which it is drawn, where random sampling is important to help ensure its representativeness.

It is also assumed that the subjects in this study are identical and of the same level. They are thus assumed to be representative of the target population as all the subjects are engineering students in Technical and Professional Writing course in Universiti Teknologi

PETRONAS and to register in Technical and Professional writing course, it is a pre-requisite that they have to pass Foundation English Level 1 and Level 2 courses. All students have studied ESL for at least 12 years (6 years primary school, 5 years secondary school, 1 year pre-university). It can thus be assumed that the subjects are representative of the population in which random sampling is carried out.

ii. Unbiasness

The second assumption in this research is with regards to biasness. It is important to assume that there is no element of biasness especially when the researcher is also the teacher for both the experimental and the control groups in this study. A number of steps, as outlined by Brown (1988) were taken to control the element of biasness.

As mentioned in Brown (p.34), one of the problems that could contribute to biasness in a research is *Researcher Expectancy.* There is a higher possibility of such problem especially in behavioral research, "where the researcher who knows which group is which, may affect the performance of the groups in subtle and uncontrolled ways." It would thus feared that any differences in the achievement of the two groups, which are the control and the experimental groups in the study reported in this thesis, might be due to the effects of

researcher expectancy, which therefore makes it difficult to interpret the results.

As such, the effect of researcher expectancy is controlled by reshuffling of the students' pre-test and post-test papers prior to rating those papers. The raters (the researcher and two other raters) therefore will not be able to know whether the paper that they are rating, is written by a student from the experimental group or a student from the control group. So it can be assumed that there is no effect of researcher's expectancy on the outcome.

Another effect that could caused be elements of biasness is the halo effect (Brown: 1988:33). This effect may be caused by the students' tendency to respond positively to the person they like. As such, the results of the research could be more related to these positive feelings than to the actual results. Having the same teacher in both the control and the experimental groups, in this study, could control such halo effect.

Another effect of biasness is called s*ubject expectancy.* The effect is related to the tendency of human beings to want to please. It could occur if the subjects realize what the study is about and try to help the researcher to achieve the research goal. For example, the students in the control group could help the researcher to achieve the desired results by performing poorly in the tests (pre-test and post-test). Such

effect is possible when the subjects realize that there is an unusual element in their curriculum. There is however no unusual element in this study as subjects in both groups will be using the same syllabus and the same text book that have been used for many semesters and the contents of the course are in accordance to the syllabus outline distributed to them.

Relevant to the issue of biasness, noted in Brown (1988), the researcher of the study should also be aware of the *Hawthorne effect*. The Hawthorne effect may occur if the subjects are aware of their involvement in the research and are "so pleased at being included in a study that results of the investigation are more closely related to this pleasure than to anything that actually occurs in the research" (see Brown 1988). The researcher should ensure that such effect is not present throughout the research. To avoid such situation, the students will not be informed of their involvement as subjects in the research. It is hence assumed that there is no element of biasness in the learners' attitude towards the researcher and the treatment.

iii. Replication of the study

It is also assumed that this study can be replicated and that the findings of any replications will be similar to the results of this study.

1.5.2 The significance of the Research

Despite rigorous discussions on the theoretical assumptions and research on teaching English as Second Language (ESL) writing pedagogy for over the last two decades, many researchers (e.g. Reid 2001:154; Polio, 2003:36) acknowledge that the field of second language writing is still relatively young. Cumming (1998 cited in Kroll 2003: 6) further notes that "we are (still) far from seeing models that adequately explain learning to write in a second language or precisely how ...[L2] writing should be taught" (p.68). This study therefore seeks to evaluate an eclectic approach to the teaching of writing to investigate whether such approach could be significantly effective on the improvement in learners' achievement in technical writing.

There have indeed been numerous approaches to the teaching of writing in the history of English language teaching. Process and product approaches to teaching writing have dominated and influenced much of the teachers' instructions in L2 writing classrooms for over the last twenty years. Genre approach, on the other hand, came into L2 writing classrooms for the last 10 years (see Gee, 1995). This study however looks for ways on how these three approaches could be seen as complementary and will further investigate the effectiveness of such approach. Since this study seeks to integrate these approaches, it may hence contribute towards stimulating more interest in the teaching of second language writing, especially now that second language teachers can draw on a range of approaches to teaching writing. This study therefore seeks for ways to synthesize and integrate the prominent approaches to teaching writing and empirically investigate the effectiveness of such eclectic

approach to the teaching of technical writing in a higher learning institution. As emphasized by Caudery (1996:22) there are benefits to look for ways in which "the approaches can complement each other rather than ways in which they are in opposition."

With regards to the many varied and often conflicting approaches to teaching writing, Casanave (2004) asserts that, "perhaps the most consuming of all dilemmas for L2 writing teachers is how best to help their students improve their writing" (p.64). L2 writing practitioners thus need to decide on which of the many and often, conflicting approaches to teaching writing will actually be "paths to improvement" (p. 63). Cumming (1998) and Matsuda (1999) however note that L2 practitioners often found themselves still in search of a coherent, comprehensive theory. This gap is what this research study attempts to address – that is by proposing an eclectic approach, process genre-based approach, to teaching writing. The proposed process genre-based approach, by adapting Badger's and White's (2001) process genre-based approach model, synthesizes the strength of the three main approaches to teaching writing (where, as will be discussed later in Chapter 3, the genre approach is seen as an extension of the product approach).

The empirical research design, experimental method, employed in this study indeed offers significance in this research. This research study will report the effectiveness of the proposed process genre-based approach to teaching writing based on hypothesized empirical evidence rather than logic or post-hoc evidence of the proposed model to teaching writing (as presented in chapter 3).