TEST/NON-TEST VARIATIONS IN THE COMPOSING BEHAVIOURS
OF ACADEMIC ESL WRITERS

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Abstract

Fluctuations in the quality of text produced by an individual writer from day to day have long been recognized, but variations in composing processes which may account for this have largely been overlooked as an area of study in the composition research both in English as a first language and in English as a second language.

While process tracing research has revealed great variation among individual writers and among types of writers, and in the quality of writing an individual may produce from time to time, fluctuation in writing behaviours has been ignored. By closely observing, through video techniques, six ESL writers who had demonstrated considerable inconsistency in the quality of their writing, this study examined differences in their behaviours as they wrote in two situations: one a practice essay composition test, and the other an actual English composition proficiency examination.

The subjects observed were selected because they had failed the examination at least twice before contrary to the predictions of their instructors. The researcher speculated that this inconsistency in their ability to perform was related to the heightened stress of the examination situation.

Between the situations, variations were observed in the complexity of the texts generated, in the allocation of time to
various composing activities, in the writers' pausing behaviours, and in the type of alterations they made while inscribing. In addition, each of the six writers displayed a unique profile in approaching the writing tasks.

The findings of the study suggest that assessment and instructional practices need to address writing problems as distinct from language proficiency problems and that assessment and instruction practices need to attend to behaviours during the writing act while accounting for student writers who are unusually apprehensive about writing or who suffer from high levels of anxiety in test situations. The findings also reiterate the long-standing suspicion about the validity of assessing writing skill based on a single sample of a student's writing.
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Finally, but not by any means least, I acknowledge the great patience and understanding of my wife and daughter Sara. To Jill and Sara I owe much more than words can convey.
The topic is too limited, so I have difficulty to develop it. I hope in the final exam, there will be more choices. Besides, one test is not enough for measuring one's ability to write. It will be possible for anybody to fail in one test but pass another, second, test.

An anonymous ESL university student, commenting on a practice essay examination, Spring 1989.

This paper is awful. I always feel bad about my papers in an English course. I don't have problems writing my papers in Psychology because I can write them at home and I can choose the time. I can use books and resources. I think it's the time limit which bothers me a lot. But I'm not sure. I'm afraid I'm getting crazy.

An anonymous ESL graduate student, commenting on the variability of her written English in a practice essay examination, Spring 1989.
CHAPTER ONE

SCOPE AND FOCUS OF THE STUDY

I. BACKGROUND OF THE PROBLEM

Anyone with much experience writing from day to day in different situations for various purposes knows that the production of written language is not an activity for which one dons a certain habit, adopts a certain stance, orchestrates a certain physical ritual, and plunges in — into the task of writing language — with the full assurance that the activity will be executed just as efficiently, with the same degree of ease or difficulty, and with the same show of grace and aplomb as the last plunge or the plunge before. Rather, each writing task presents its own particular demands. And, whatever internal and external environments and rituals we as writers may require at the outset, these demands, our experiences, and the constraints or liberating aspects of the conditions at the moment of writing, all conspire to create the surety that this particular writing task is, indeed, particular and must be executed accordingly.

Anyone with much writing experience also knows that the success of the current effort to communicate in written language will differ from previous successes or failures in many ways and that the result of the particular effort may very well differ in
quality, by whatever measure is used, from the results of earlier writing acts.

Likewise, anyone with much classroom experience teaching composition and assessing the texts produced by a student writer over the long term of weeks or months is well aware of the writer's production of written language of inconsistent quality, a phenomenon which has been largely overlooked as a subject of study since it was documented nearly four decades ago.

Early studies of writing variation (Kincaid, 1953 and Anderson, 1960) documented conclusively this fluctuation in writing ability and quality, fluctuation which is common knowledge to experienced writers and composition teachers alike. In his well-designed 1953 study of 320 compositions by college freshmen writers, Kincaid concluded that "a single paper written by a student on a given topic at a particular time cannot be considered as a valid basis for evaluating his achievement in a writing course at any time, unless that student's writing ability was rather low; and, even then, a single paper would not provide an infallible basis for such an evaluation" (Braddock, et al, 1963 p. 92). Anderson, likewise, found that 71 per cent of the eighth-grade students he examined "showed evidence of composition fluctuation" (Braddock, et al, 1963, p. 6). Variations in the quality of writing seemed to result from variations in day-to-day efficiency of these writers.

Two decades after the Kincaid study, Diederich (1974) predicted a reaction of shock to his recommendation that writing assessment procedures involve two essays from each student.
Still, today, 15 years after Diederich's recommendations, tests of English proficiency and composition skill, both for first- and second-language writing, persist in basing assessment on a single writing sample, and institutions continue to give them credence as adequate assessment measures of the ability of students to write.

The present study contributes to the understanding of fluctuation in composition quality found in these earlier studies by focussing on behaviours of writers in isolated instances in which variation of text quality is evident.

This study explores the possibility that the psychological pressure of an examination situation, also examined by Kincaid, is related to variation in writing behaviours. Where the earlier studies by Anderson and Kincaid enabled correlations of variations in text quality only to test and non-test situations, the process-tracing techniques employed in this study provide a window on variations in composing behaviours as well; that is, the primary focus of the present study is on what the writers do more than on what they write. The variations in the quality of text produced and the validity of assessing a writer's skill according to the quality of a single writing sample are only of secondary interest here.

This study derives primarily from the researcher's experience coordinating and teaching in English language training programs for foreign students at a large Canadian university. In this experience, on many occasions, students with high levels of general proficiency in English have not succeeded in meeting the
university's writing proficiency requirements, despite instructor predictions to the contrary. In such cases, appeal examinations, initiated by the instructor, have most often not been successful, and many such students have continued to fail, again and again. Simply put, some students, who appear to be capable of producing acceptable freshman essays in English, and who are instructed in the demands and expectations of the final essay proficiency examination, are unable to perform satisfactorily on the exit examination and are consequently denied full status in the academic community. Such students, drawn from a population in which the fluctuation in writing performance appeared frequently, were the subjects targeted for this study.

This study explores these fluctuations in writing performance by using video recording techniques to observe closely six of these writers performing in two writing situations, one in which they each produce an essay with typical practice examination demands, and the other in which they each write the actual writing proficiency examination.

II. THE RESEARCH QUESTIONS

Because of the exploratory nature of this study, the questions originally posed were refined during the course of data collection and analysis. The questions addressed by this study are\(^1\)

\(^1\)The evolution of the questions addressed is presented in Appendix 1.
1. What observable differences are there in the quality of text produced by six Academic ESL writers composing an essay in a non-test situation compared with the quality of text they produce in an essay examination which tests proficiency in written English?

2. What observable differences are there in the approaches to the non-test and examination writing tasks among the subjects involved?

   a. For example, what observable differences are there in approaches to planning, drafting, and revising?

   b. What observable differences are there in the ways the writers allocate their time to these different activities while composing in two different situations?

   c. What observable differences are there in the frequencies, durations, and locations of pauses for these writers while they compose in the non-test and examination situations?

   d. What observable differences are there in attention to mechanical and lexical features of text while they revise in the non-test and examination situations?
e. What observable differences are there in attention to matters of a conceptual or discourse nature while they revise in these two situations?

3. Are relationships evident between variations in the behaviour of these writers in the examination and non-test situations and levels of test anxiety reported by subjects?

4. Are relationships evident between levels of writing apprehension reported by the subjects and levels of test anxiety they report?

5. Are relationships evident between the general proficiency in English of these writers and the various indicators of writing behaviour employed in this study?

6. If for a given writer, differences between the non-test and examination situations are evident, what explanations can the writer offer?

III. ASSUMPTIONS OF THE STUDY

1. Because the study involved the writing of an essay examination testing proficiency in written English, the study assumes that the subjects were motivated to produce the highest quality texts they could in the examination situation. Also assumed is that, in the non-test situation,
these subjects were motivated to write in ways which reflect their usual practices when writing essays assigned in an English course.

2. Because these subjects volunteered to participate in the study and clearly understood that they could have withdrawn at any time without penalty, it is assumed that none of them was negatively affected by the research conditions. That is, the presence of the researcher and the video camera are assumed to have had no substantial effect on the ability of these writers to write as they normally would in non-test and examination conditions with respect to the two situations studied.

3. The selected segments of the video recordings used for stimulus in the post hoc interviews are assumed to have stimulated reflection on composing behaviours which were representative of the writer's composing processes in each situation.

4. Likewise, the samples analyzed from the inscribing periods of each writer in each of the two situations are assumed to be representative of the two inscribing periods.

5. Finally, the level of difficulty of the topic selected by a subject in the examination situation is assumed to have been lower than the difficulty level of the non-test topic
chosen. Because level of difficulty of any writing task is related to the writer's particular skills and knowledge, the level of discourse demands in the two writing situations could not be fully controlled, but the topic variable was manipulated so that discourse demand could be eliminated as an intervening variable; that is, care was taken to ensure that the examination was an easier writing task, thereby giving more credence to the anxiety variable under study.  

IV. LIMITATIONS AND DELIMITATIONS OF THE STUDY

1. The small number of specially selected subjects imposed limitations on the applicability of statistical methods in this study.  

2. Likewise, the size of the special population studied limited the inferences which can be drawn from the findings of this study, and the temptation to generalize these findings must be avoided. Nevertheless, the questions which this study raises (the subject of Chapter 5) may have implications for  

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2As described more fully in Chapter 3, the non-test situation topics were limited to rhetorical modes commonly considered to be more demanding than the modes of the topic choices in the examination. In addition, level of difficulty was assessed through a survey of English language specialists and students.

3This study was restricted to a small number of subjects for practical reasons. The immense amount of data generated by the methods employed would have made such a study involving a greater number of subjects impractical.
approaches to composition teaching, testing, and research.

3. Sampling of the writing act also imposed certain limits. Because the writing tasks ranged from 82 to 120 minutes in duration, far exceeding the reasonable scope of a post hoc stimulated recall interview, interviews of the subjects in each situation involved discussion of selected 10-minute segments of the writing acts. Similarly, for each writer in each situation, only a portion of the time (ranging from 20 to 49 per cent of the inscribing time and from 18 to 44 per cent of the words generated in that period) was analyzed for variations on the several measures used. (This sampling is described more fully in Chapter 3.)

V. DEFINITION OF TERMS

Terms frequently used in this study are defined as follows:

**English proficiency** is general ability to use English as assessed by the TEST of English as a Foreign Language (TOEFL).

**State anxiety** is the tendency for an individual to be more anxious than usual in a particular situation (Spielberger, 1968).
Trait anxiety refers to a general tendency for an individual to be more anxious than others (Spielberger, 1968).

Writing apprehension is a general discomfort about writing. Apprehensive writers tend to avoid situations which require writing (Daly & Miller, 1975(b)).

Variation in this study refers to the differences evident (according to the measures employed) between phenomena occurring in the test and non-test situations.

Situation 1 is the non-test writing task examined in this study. The term Text 1 refers to the paper produced in this situation.

Situation 2 is the ESL essay examination testing writing proficiency in English which was observed in this study. The term Text 2 refers to the paper produced in this situation.

Chapter 3 provides more extended definitions of the following measures used in this study:

Deficiency scores are the scores derived from the points deducted for errors and other textual deficiencies in accordance with the exit examination procedures for the ESL course in which the subjects had been enrolled.
Time allocation is the way the subjects used their time during the two situations examined. This includes the proportion of the time used for pre-writing, inscribing, and post-drafting activities.

Inscribing sample is that portion of inscribing time for each writer in the two situations which was analyzed for certain writing behaviours.

Pauses are lapses in inscribing. For the purposes of this study, pauses are lapses in inscribing which were greater than 10 seconds in duration.

Inscribing rates are the speeds with which words were generated by the writers when they were not engaged in pauses greater than 10 seconds in length.

Pausing proportion is the ratio of total time spent in pauses greater than 10 seconds in length to the total duration of the inscribing sample.

Pause location refers to the textual occurrence of a pause during the inscribing sample; that is, whether it occurred between paragraphs, between sentences, at the beginning of a clause or phrase, or within a clause or phrase.
Generative alterations are changes to extant text which were regarded as necessary to enable the writer to continue inscribing.

Improving alterations are those changes which resulted in improvements of the text.
CHAPTER TWO

THE RELATED RESEARCH

I. THE HISTORICAL PERSPECTIVE

In their 1963 landmark report, Braddock, Lloyd-Jones, and Shoer identified a number of variables in the process of evaluating writing competence. Among these were the "writer variable" and the "assignment variable," the latter involving the topic, the mode of discourse, the writing time afforded, and the examination situation itself (Braddock, et al. 1963, pp. 6-12). The Braddock team had reviewed research to date which identified fluctuations in quality of compositions written by the same writer on different occasions. Among these studies were the Kincaid and Anderson studies referred to in Chapter 1 in which fluctuations in the quality of writing by an individual writer were firmly documented.

The 1953 Kincaid study had focussed on 320 papers produced by his college freshmen. The Anderson study had examined the variations in quality of text produced by 55 eighth-grade writers composing on eight different occasions. In reviewing this research, the Braddock team noted that "composition examinations are always measures of writing performance; that is, when one evaluates an example of student's writing, he cannot be sure that
the student is fully using his ability, is writing as well as he can" (Braddock, et al 1963, p. 6).

Since the Braddock team's 1963 report, little research has investigated further the phenomenon of variation in the day-to-day quality of writing. It appears that the degree to which variations in writing performance for an individual writer occur from time to time has been acknowledged only insofar as it is readily observable to writers and teachers of composition alike. In addition, perhaps all too rarely, testing procedures such as those recommended then by the Braddock team and reiterated by Diederich a decade later (1974) attempt to accommodate fluctuations in composition quality by basing evaluation of student writing skills on more than one composition.

In the two and a half decades since the Braddock team's report, research into English composition has undergone great change, the most visible of which was the shift, following the 1971 case-study research of Emig, from large-scale investigations of relations between pedagogical practice and changes in composition quality to small-scale studies which systematically examined writers engaged in the act of composing (Graves 1974, Mischel 1974, Perl 1979, Pianko 1979, and Stallard 1974, among others). This shift of interest in English composition research from the product to the processes of the composing act has been accompanied by investigations into the psychological processes involved in written composition and the development of various theoretical models attempting to describe the act of writing (Flower & Hayes and Bereiter & Scardamalia, among others.)
II. RESEARCH IN COMPOSING IN ENGLISH AS A SECOND LANGUAGE

The shift in interest to the processes of composing in English was followed by a similar shift in the research into writing in English as a second language. Zamel, as recently as 1983, based her distinction between skilled and unskilled ESL writers on text quality alone. At that time, much of the pedagogy involved guiding the ESL writer from the sentence to the paragraph, and finally, to the essay. Since then, trends in ESL composition instruction have included the regular use of journals and free writing (Raimes 1985), trends which have been accompanied by a shift in research away from the interest in text quality and prescribed text forms to an interest in the processes involved in ESL composing.

Much of the research into the composing processes of ESL writers has involved attempts to document similarities between first- and second-language composing processes. Recently, researchers have begun to call for studies that document process differences between first- and second-language composing and informs pedagogy which takes these differences into account (Raimes 1987, Silva 1989, Yau 1989).

The research into ESL composing processes has drawn many other comparisons. Studies have compared skilled and unskilled writers composing in the second language (Brooks 1985, Heuring 1985, Raimes 1985). In addition, bilingual subjects have been compared writing in both their first and second languages (Arndt 1987, Gaskill 1986, Hall 1987, Jones and Tetroe 1987, Lay 1983,
Martin-Betancourt 1986). Other comparisons have concluded that first-language composing skills, particularly planning skills, are transferred to writing tasks in the second language (Jones and Tetroe 1987), and that ESL writers, like first-language writers, explore and discover ideas through writing (Zamel 1983). Comparisons have also shown that ESL writers, revising primarily while they are drafting, attend mostly to surface-level changes (Lay 1983 and Gaskill 1986) and that these are most often of a lexical nature (Arndt 1987, Hall 1987, Heuring 1985, and Yau 1989).

In her 1987 study of six academic writers composing both in their first language and in English, Arndt revealed problems which stemmed from inadequate awareness of the properties of academic exposition. She also found that her bilingual subjects revised more for word choice in English but rehearsed more in the first language.

Other ESL process-tracing research has led to conclusions which distinguish between writing expertise and second-language proficiency. Of the ESL writers she studied, Zamel, in 1984, concluded: "It is their writing strategies and behaviors and not primarily language proficiency that determines composing skill" (p. 198). In examining eight college students composing aloud, Raimes (1985) came to a similar conclusion, but refuted the general notion that ESL writers were more concerned with surface-level matters than were first-language writers. Raimes said her writers "showed commitment even to an in-class essay and that they did not seem preoccupied with finding errors but were more
concerned with getting ideas down on the page" (1985, p. 250). Proficiency, she concluded did not seem to be related to writing behaviours.

In further work examining the relation between general English proficiency and writing expertise, Cumming (1988) concluded that "writing expertise and second-language proficiency each make quite different contributions to the processes and products of writing in a second language. Indeed, it would appear that writing expertise and second-language proficiency are psychologically different."

III. RESEARCH INTO COMPOSING PROBLEMS

A. Intrusions and Impediments

Concurrent with the developments in composition research has been a growing interest in understanding composing process problems which inhibit the efficient production of written text, both in English as a first language and in English as a second language.

In observing basic writers in first-language composition, Shaughnessy (1977) concluded that the work of error correction "is worth doing and . . . does not inhibit the student as a writer provided the distinction between composing and proof-reading is respected" (p. 158). Shaughnessy's caveat has come to be regarded with more and more credence as process-tracing research, both in first-language and second-language composing
reveals the inhibiting effect of attention to language form while composing.

Perl, in her 1979 study of unskilled first-language college writers, concluded that editing intrudes and impedes writing processes. For the unskilled writers she studied, Perl found editing activity to be primarily a search for errors. An early study in second-language composing process research (Zamel 1982) likewise concluded that an inordinate attention by ESL writers to form leads to continual disruptions of the writer's discovery process, which can result in blocking behaviour and the development of apprehension about writing. More recent evidence supports these conclusions, suggesting that "excessive monitoring for grammatical accuracy can be detrimental, especially if students are trying to apply complex rules which are not yet part of their basic L2 competence" (Adamson 1989, cited by Gungle and Taylor, p. 239). Roen et al (1989) likewise conclude that focus on form most likely raises the level of ESL students' writing apprehension, which leads to cognitive overload and prevents ideas from getting on paper.

B. Writing Apprehension

Early interest in writing process problems resulted in the development of an instrument to measure "writing apprehension" (Daly and Miller 1975), and many studies, both in first- and second-language composing have examined this tendency of certain
individuals to be generally more anxious about writing than are others.

In 1978, Daly and Shamo found that highly apprehensive academic writers favored academic disciplines perceived to have low writing demands. They concluded that these perceived demands "play an important role in the development and maintenance of preferences within social settings" (p. 125).

In her case study of an apprehensive college student composing, Selfe (in Rose 1985) found the writer spent little time in pre-writing activities and hurried through the inscribing in order to get something onto the page. The writer studied spent a quarter of her time editing and revising what she had just written. Selfe questioned whether her subject's anxiety was generated by successive failures and whether common instructional practices magnified apprehension about writing. She also questioned whether writing apprehension was related to lack of writing skill, and whether it was reversible.

In a study which addressed such problems and questions, Fox (1981) found that a collaborative workshop approach reduced writing apprehension more quickly for students in a remedial composition program and that students in the workshop produced writing at least as proficient in quality as those in his control group.
C. Studies of Writer's Block

Much of the research into composing problems has focused on "writer's block," leading to the development of a cognitive model of this debilitating phenomenon (Rose 1980, 1984). This model identifies several types of blocking indicators including the writer's negative attitudes to writing, lack of strategies for organizing complex material, and tendencies to edit prematurely.

In an elaborate study involving the questionnaire he developed, videotaped protocols of undergraduate students composing, and video-stimulated recall interviews, Rose (1984) found that low blockers (those who generated text with little hesitation) invoked "functional rules" with much greater frequency than the high blockers (those who often became stuck while writing). The high blockers, Rose found, tended to invoke more "rigid, absolute" rules and voiced assumptions about how writing should occur. High blockers experienced "conflict" more frequently during the writing act and engaged in what Rose termed "premature editing" three times as often as did the low blockers.

Among the many research forays into writer's block, one study approaching the research from a practical pedagogical perspective (Harris 1985) identified blocking writers of five different types: the "indecisive writer," the writer plagued with concern for "what is right," the "incessant editor," the writer "misguided about a useful strategy," and the "incessant re-reader." Harris concluded that pedagogy must address tendencies
toward these behaviours because "only by knowing something about composing processes can students begin to articulate for themselves and for us what they want to learn" (p. 180).

"Writer's Block" in ESL

Second-language studies of these inhibiting phenomena have come to several conclusions. In his 1985 study, Jones concluded that second-language writers may rely to different degrees on the "monitor," a term coined by Krashen (1976) to describe the use by adult ESL learners of forms and patterns of language which have been formally taught. Jones contrasted strategies of monitor "overusers" and "underusers," concluding that ESL writers who use the monitor excessively are less efficient than those who do not because of the excessive application of learned rules. While composing, the "overusers" displayed more frequent and longer pauses and performed fewer revisions than the "underusers."

Examining the effect of stress in testing situations, Madsen and Murray (1984) found that composition tasks on language tests are particularly stressful for highly anxious second-language writers. These researchers employed the standardized Alpert-Haber Achievement Anxiety Test to identify highly anxious individuals, both ESL students and ESL methodology students, finding that these subjects ranked the composition portion of a battery of tests as more stressful than the other sections of the test. Madsen and Murray concluded that the highly anxious
subjects presented a unique profile in their reactions to test situations.

Another study of apprehension and stress related problems in composing (Fayer 1986) found that writing apprehension increased for writers composing in a second language. After administering the Daly-Miller Writing Apprehension instrument to 177 Puerto Rican university students, Fayer found that students enrolled in writing classes were less apprehensive about writing than those who avoided writing classes and that writing apprehension was lower for these subjects than apprehension about communicating orally. Fayer attributed this finding to fear of miscommunication in the temporal conditions of speech, where evaluation is immediate compared with writing and where the writer has the time to consult resources. Another study of Puerto Rican students found that premature editing, identified by Rose as a blocking behaviour, was a problem for freshmen ESL writers especially (Betancourt and Phinney 1987).

More recently, Gungle and Taylor, in a study relating the applicability of the Daly-Miller Writing Apprehension instrument to ESL students, concluded that writing apprehension "is a real problem among ESL writers." They concluded that instructors "should begin to think about what we can do in our classrooms today to reduce students' apprehension about writing" (p. 246), suggesting that a positive, low-stress classroom atmosphere would serve this purpose.
Findings in research relating to the intrusion of premature editing, the effects of writing apprehension, and the tendency to block while composing lead to conjectures over whether certain ESL writers who have demonstrated fluctuations in the quality of the texts they produce will exhibit different behaviors when writing in situations of varying importance, for instance, in English composition proficiency demonstrations one of which is an examination affecting their academic status.

IV. RESEARCH METHODOLOGY

With the shift in research focus from the written text to the processes of composing, a number of developments have occurred in research methodology.

Various observation techniques have been developed, the most widely used of which has been the composing-aloud or thinking-aloud protocol analysis, a technique which involves recording the writer talking during the writing act in order to determine what the writer's thinking processes may have been.

Research has also involved close video observation techniques in which a camera, focussed on the paper, records the development of the composition. Often, a second camera, focussed on the writer, records the subject's other behaviours. Most often, video observation involves a post hoc stimulated recall interview in which the writer and researcher discuss the composing processes revealed by the video record.

Such video techniques were used for detailed analysis of
pausing behaviour by Matsuhashi and Cooper (1978) and employed by Rose (1984) and Schumacher (1984). Jones (in Rose 1985) used video taped protocols and *post hoc* interviews to contrast strategies of his monitor "overuser" and "underuser." While the data yielded by such techniques are not nearly as rich as those obtained through think-aloud protocols, this technique, according to Yau, "provides a window on the cognitive activities underlying the writing process, yet does not interrupt the ongoing character of that process" (1989, p. 17).

With the development of these techniques, various taxonomies of composing behaviours have emerged and various notation systems have been developed. In her study of five unskilled college writers, Perl (1979) identified 16 observable behaviors (ranging from general planning to surface editing) revealed in composing aloud protocols. Pianko (1979) identified similar behaviors (prewriting, planning, composing, rereading, stopping, contemplating the product, and handing in the product) and incorporated them into her study of first-language college freshmen writers. She further identified writing, pausing, and rescanning as behaviors during the composing act.

More recently, taxonomies have emerged from stimulated recall observation methods. Schumacher, *et al* (1984), using a video tape record of the composing act as a stimulus, classified interview responses to identify behaviors during pauses as either "thinking" or "grammatical" activities, assigning 11 activities to the former and four to the latter.

Her interest in "shaping at the point of inscription" led
Matsuhashi (1987) to develop a "process-oriented taxonomy to on-line revision data" (pp. 205, 207) through which she was able to classify the types and locations of alterations which occurred during the inscribing recorded through video techniques.

These taxonomies developed in first-language composing process research have been the bases for classifying behaviours in second-language composing process research. Raimes (1984, 1987) adapted Perl's classification system for her composing-aloud studies of ESL writers, and Yau (1989) classified behaviours in both first- and second-language composing according to Shumacher's taxonomy (1984).

V. CONTEXT OF THE PRESENT STUDY

As pointed out by Silva (1989), a recurrent theme in the process-tracing research into composing in English as a second language is the variation among ESL writers. Raimes (1985) concluded, that no clear profile of the unskilled ESL writer emerged because patterns were not consistent enough among the writers she observed. Arndt (1987) found differences among her six Chinese writers in the ways they approached the writing task, and Lay (1983) found differences among ESL writers in their approaches to pre-writing activities. Jones and Tetroe (1986) noted differences in planning processes among the writers they studied, and Johnson (1985) found differences in the use of large scale plans. Brooks (1985) reported variation among writers with regard to audience. Johnson (1985) found differences in ability
to respond to all parts of a rhetorical problem, and Brooks (1985) observed variation in the time used to complete a writing task.

The behavioural variations observed by ESL composing process research to date have been variations among writers. Similarly, behavioural variations observed in first language composing have been those among individual writers (such as those observed by Harris) or between groups of writers (such as the skilled and unskilled writers observed by Perl). In first-language composition research, variations have also been observed in the quality of text generated by individual writers at different times (such as those observed by Kincaid and Anderson decades ago).

The present study, employing research and analysis techniques developed in research in English composition and in composition in English as a second language, extends the understanding of ESL composing processes by examining the behaviours of specially selected ESL writers for whom fluctuation in text quality is highly evident. By observing these writers composing under both test and non-test conditions, this study explores the variations in their behaviour which may account for the fluctuations in the quality of text which such writers produce.
CHAPTER THREE

THE STUDY

To address the research questions posed in Chapter 1, this exploratory, descriptive study involved a group of six specially selected subjects from a population of foreign students at a large Canadian university. Methods for gathering data included a number of techniques and measures common to composing processing-tracing research, and the resulting data were analyzed with the research questions in mind. Descriptions of the population and research procedures follow, but first, a description of the design of the study.

I. THE DESIGN

This study is both descriptive and exploratory in design. First, through experimental methods which manipulate the time and topic variables in two writing situations, it seeks to describe variations both in product and process for a special group of writers by examining texts and composing behaviours of the individuals. Through the use of standardized instruments and interviews, the study describes these individuals and attempts to relate certain characteristics to the performance variations observed.
The study is exploratory to the extent that it extends understanding of composing processes by closely observing writers composing an essay in an examination which tests writing proficiency. In employing such observations, it can be assumed that the writers under study were endeavoring to produce the highest quality texts they could. Such a design addresses one serious problem with process-tracing methods: Were the subjects involved demonstrating their abilities and processes fully or were they simply performing a school-sponsored or research-sponsored task?

The Methods

The research questions called for adoption of a number of procedures commonly employed in writing process-tracing research. Among these were the gathering of background information on the subjects, evaluation and analysis of the texts produced, and video observation of the papers as they were generated.

Video observation techniques were employed because of the extent to which they enabled real-time observation of all pauses, inscribing, and alterations which occurred during the act of text generation. In addition, the video recording techniques were employed in such a way that selected segments of the lengthy video recordings were available for use in stimulated recall interviews immediately following the writing tasks.

The commonly used technique of think-aloud protocols was rejected in this study because the subjects could justifiably have argued that a requirement to think aloud might have nega-
tively affected their ability to perform well on the examination which, for each of them, was highly important. For the same reason, in a departure from the process-tracing video recording methods used by such researchers as Matsuhashi and Rose, a second camera was not focussed on the writer during the writing tasks.

The Variables

While recognizing the possible effects of a number of intervening variables, not the least important of which were differences among the subjects in general English proficiency and writing expertise, the primary focus of the study was on the relation of anxiety to the dependent variables of writing behaviour and quality of text produced in the two situations. To these ends, the study focussed attention on a population for which written proficiency was highly important and among which there was certain to be a number of individuals who had demonstrated a high degree of variation in their ability to produce written compositions of consistent quality.

II. THE POPULATION

Because the questions posed by this study involve inconsistencies in composing performance, writers who have demonstrated variation in the quality of their writing would be ideal subjects for the investigation. Such a population was accessible in an ESL program at a large Canadian university where foreign
students who have been admitted are often required to take ESL courses to improve their English composition skills.

A. The Setting

At this university, foreign student admission is based on academic standing and level of proficiency in English, demonstrated by scores on standardized English proficiency tests such as the Test of English as a Foreign Language (TOEFL). On arrival, they are further given a university battery of tests, and those assessed to have inadequate English skills are required to enroll in ESL courses operated by the university's ESL division.

The courses focus on essay writing with much of the instruction directed toward developing skills required to pass an exit essay examination. During the course, students are acquainted with the criteria by which their examination essays will be assessed.

These non-credit, cost-recovery courses are funded from student tuition fees, and students are prohibited from enrolling in full-time academic programs until they have met the English proficiency requirements by passing the final essay examination.

These students, many of whom are supported by foreign institutions or other funding agencies, are under great pressure to fulfill the English requirement and proceed unimpeded with their academic work. Most often, a student taking the required
ESL course for the first time fails the exit essay requirements and is required to enroll in an ESL course again. Often these students perceive the ESL course requirement as a needless bureaucratic impediment to their acquiring full status. The requirement, upon failure, to repeat the course only exacerbates the problem for students with this perception.

B. Assessment and Appeal Procedures

The final essay examination written by these students is jointly evaluated by ESL course instructors and the university English Department. The latter is the final arbiter when examination assessments by the two markers differ greatly or when assessments are near the pass-fail grade.

Student performance during the course is assessed by course instructors who are asked to predict the student's likelihood of success on the exit examination based on course work performance. Instructors are able to initiate supplemental appeal examinations for students who fail the examination contrary to instructor predictions. Appeals are usually initiated for students who receive assessments near passing. A student who fails the course is provided with a detailed assessment of the failing essay which is often discussed in depth with the writer.

From time to time, at the discretion of the ESL division coordinator, such students are exempted from enrolling in a subsequent ESL course and are permitted to challenge the course by writing the final examination. These procedures are applied
when, in the judgment of the program coordinator and the instructor, the student will gain little or nothing from immediate further instruction. Such students are most often those who have failed the exit examination more than once.

C. Selection of the Subjects

In order to target subjects for whom variation in writing quality was strongly evident, the researcher asked the ESL course coordinator to identify students who had recently failed the ESL essay examination contrary to their instructors' predictions and who had been granted permission to challenge the course by writing the final examination at the end of the subsequent session of the course. Another former student, not enrolled in the current session, had also been granted permission to challenge the course.

Concurrently, because test anxiety and apprehension about writing were central variables to this study, instruments measuring these tendencies were administered to all 70 students enrolled in the ESL courses in order to permit comparisons on these measures between the targeted subjects and their peers.

The students identified by the coordinator as likely subjects were advised of the nature of the study and invited to participate. Seven of them accepted the invitation and were informed in writing that their involvement would be voluntary and

'These procedures are described further under DATA COLLECTION PROCEDURES, pp. 39-42.
confidential and that they would be able to withdraw from the study at any time without jeopardizing their challenging status (Appendix 2). Subsequently, one of the participants withdrew. Following an ethical review conducted by the university Behavioural Sciences Screening Committee, the study proceeded with the remaining six subjects who adopted the following pseudonyms: Frank, Jolanta, Kei, Liba, Shiro, and Wang.

III. THE SUBJECTS

A. Personal Profiles

As reported in Table 1, the six subjects ranged in age from 18 to 31, two of them, Jolanta and Liba, being females who were both married. The six had been in Canada for periods ranging from seven months to more than six years. Three were at the university on student visas, two were landed immigrants, and one a Canadian citizen. First languages represented were German, Polish, Japanese, Czech, and Cantonese.

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2All tables presented list the subjects in a consistent order. Because three of the subjects, Frank, Kei, and Wang, reported the greatest changes in state anxiety levels between the two writing situations, they have been grouped in the initial positions of all tables to facilitate visual comparisons where applicable.
Table 1: **Biographical Information and Personal Profiles of Subjects**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Age</th>
<th>Sex</th>
<th>Marital Status</th>
<th>L1</th>
<th>Time in Canada</th>
<th>Status in Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>25</td>
<td>M</td>
<td>S</td>
<td>German</td>
<td>8 months</td>
<td>Visa</td>
</tr>
<tr>
<td>Kei</td>
<td>20</td>
<td>M</td>
<td>S</td>
<td>Japanese</td>
<td>5.5 years</td>
<td>Immigrant</td>
</tr>
<tr>
<td>Wang</td>
<td>18</td>
<td>M</td>
<td>S</td>
<td>Cantonese</td>
<td>7 months</td>
<td>Visa</td>
</tr>
<tr>
<td>Jolanta</td>
<td>31</td>
<td>F</td>
<td>M</td>
<td>Polish</td>
<td>6.5 years</td>
<td>Citizen</td>
</tr>
<tr>
<td>Liba</td>
<td>37</td>
<td>F</td>
<td>M</td>
<td>Czech</td>
<td>3 years</td>
<td>Immigrant</td>
</tr>
<tr>
<td>Shiro</td>
<td>24</td>
<td>M</td>
<td>S</td>
<td>Japanese</td>
<td>7 months</td>
<td>Visa</td>
</tr>
</tbody>
</table>

B. Educational Backgrounds of the Subjects

Table 2 reports the educational backgrounds of the subjects as well as the restrictions on their status at the university and the number of times they have failed the ESL exit examination.

The subjects, three undergraduates and three graduate students, were from a variety of disciplines. Three had previously failed the ESL exit examination twice, and two had failed three times. Kei, who had been enrolled in ESL courses intermittently for two years and had written several appeals initiated by his instructors, had failed the examination six times.

In each case, the instructors had predicted the student would pass the exit examination and indicated they would initiate an appeal should the student fail.

Five of the subjects had academic course loads restricted to 80 per cent and one, Shiro, to 60 per cent. Educational back
Table 2: **Educational Backgrounds of Subjects**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Previous Education</th>
<th>Current Status* and year</th>
<th>Specialty</th>
<th>Maximum Courseload</th>
<th>ESL course Failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>4 years Technical University Germany</td>
<td>G Commerce Year 5</td>
<td>80%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Kei</td>
<td>Secondary School Canada</td>
<td>U Science Year 2</td>
<td>80%</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Wang</td>
<td>Secondary School Hong Kong</td>
<td>U Science Year 1</td>
<td>80%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Jolanta</td>
<td>2 years Economics Academy Poland</td>
<td>U Economics Year 2</td>
<td>80%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Liba</td>
<td>M.D. Psychology Czechoslovakia</td>
<td>G Counselling Psychology Year 5</td>
<td>80%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Shiro</td>
<td>4 years University Japan</td>
<td>G Wood Science Year 5</td>
<td>60%</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

*Graduate or Undergraduate

Grounds ranged from recent secondary school graduation to years of post-graduate studies. One subject, Kei, had completed junior and senior secondary school in Canada.

C. Language Experience of the Subjects

As reported in Table 3, four subjects reported first-language composition studies ranging from four to 12 years.
These subjects reported a preference for writing in their first languages over writing in English, while the others, Kei and Wang, who reported no experience studying composition in their first languages, stated a preference for writing in English. Three subjects reported that English was the language used primarily at home. Two, Kei and Jolanta, said they used primarily their first languages at home while Frank reported using both English and German to similar degrees.

D. English Proficiency Scores

The group represented a wide range of TOEFL scores, two of which, those of Liba and Shiro, were below the usual admission requirement of 550 because of special admission by the graduate departments concerned. To establish a sense of the relative general proficiency of the six subjects, their TOEFL scores were compared with the only other numerical scores available, those on the grammar component of the university's test of English, written by each subject on admission to the ESL courses.

When both of these scores, presented in Table 4, are considered, clearly Wang, with the highest scores on both tests, appeared to be the most proficient of the six, and Shiro the least. For the others, however, the scores do not closely compare. Because the TOEFL is an internationally recognized standardized test, and because it involves listening, grammar, and reading components, TOEFL scores were taken to be the measure of proficiency in this study.
### Table 3: Language Experience of Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Composition Studies in L1 (Years)</th>
<th>English Studies (Years)</th>
<th>Preferred Language of Writing</th>
<th>Predominant Language at Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>8</td>
<td>8</td>
<td>L1</td>
<td>Both 50%</td>
</tr>
<tr>
<td>Kei</td>
<td>None</td>
<td>4</td>
<td>English</td>
<td>L1</td>
</tr>
<tr>
<td>Wang</td>
<td>None</td>
<td>13</td>
<td>English</td>
<td>English</td>
</tr>
<tr>
<td>Jolanta</td>
<td>4</td>
<td>5</td>
<td>L1</td>
<td>L1</td>
</tr>
<tr>
<td>Liba</td>
<td>12</td>
<td>6</td>
<td>L1</td>
<td>English</td>
</tr>
<tr>
<td>Shiro</td>
<td>12</td>
<td>12</td>
<td>L1</td>
<td>English</td>
</tr>
</tbody>
</table>

### Table 4: TOEFL and University Grammar Test Scores

<table>
<thead>
<tr>
<th>Subject</th>
<th>TOEFL</th>
<th>Rank</th>
<th>University Test (Grammar)</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>590</td>
<td>3</td>
<td>78</td>
<td>3.5</td>
</tr>
<tr>
<td>Kei'</td>
<td>600</td>
<td>2</td>
<td>78</td>
<td>3.5</td>
</tr>
<tr>
<td>Wang</td>
<td>630</td>
<td>1</td>
<td>84</td>
<td>1</td>
</tr>
<tr>
<td>Jolanta</td>
<td>561</td>
<td>4</td>
<td>67</td>
<td>5</td>
</tr>
<tr>
<td>Liba</td>
<td>545</td>
<td>5</td>
<td>80</td>
<td>2</td>
</tr>
<tr>
<td>Shiro</td>
<td>523</td>
<td>6</td>
<td>69</td>
<td>6</td>
</tr>
</tbody>
</table>

'One subject, Kei, who had graduated from secondary school in Canada, was not required to submit a TOEFL score prior to admission. In connection with this study, he wrote an unofficial practice version of the TOEFL.'
IV. DATA COLLECTION PROCEDURES

A. Writing Apprehension and Anxiety Instruments

As mentioned previously, three instruments measuring test anxiety and apprehension about writing were administered to all students enrolled in the ESL courses prior to the selection of the subjects. This was in order to permit comparisons of the subjects on these measures with their ESL peers.

The Daly-Miller Writing Apprehension Instrument (1975, Appendix 3) was administered twice to the 70 students enrolled in the ESL courses. This 26-item self-report Likert-type questionnaire, designed to measure apprehension about writing, was administered once to elicit responses to writing in the first language. After a minimum of one week's elapsed time in order to minimize the possible influence of responses to the first questionnaire, it was administered again to elicit responses regarding apprehension about writing in English (Appendix 4).

In addition, the Alpert-Haber Achievement Anxiety Test (ATT) (1960) administered to the 70 students enrolled in order to ascertain the extent to which the subjects are affected by test anxiety compared with their ESL peers. Because the language of most of the 19 items reflecting facilitating and debilitating effects of test anxiety was confusing, the items on this Likert-type questionnaire were modified for use by this ESL population and correspondence of the revised items checked by four ESL specialists (program coordinators in the university's ESL
division). These specialists were asked to confirm that the essence of the original items was preserved in the modifications and to suggest revisions (Appendix 5).

Of the 70 students enrolled, 63 responded to the first-language Writing Apprehension (Daly-Miller) questionnaire and 69 to the English version. Fifty-seven responded to the modified Alpert-Haber instrument. Those not responding were absent when the instruments were administered in class. One of the subjects, Kei, was not enrolled in the course at the time and completed two of the three questionnaires subsequent to his entry into the study.

Comparisons of Subjects and ESL Peers

Responses by the six experimental subjects to these questionnaires were removed and z-scores were calculated for the subjects based on means and standard deviations for their ESL peer group.

In addition, because norms were available for the Daly-Miller Writing Apprehension instrument and for two subscales on the Alpert-Haber ATT, z-scores for the subjects were calculated based on these norms for these instruments. 

\[ \text{Test norms were used for this calculation rather than norms for the ESL peer group because scoring the subscales for the 57 ESL students would have been cumbersome.} \]
Table 5: Scores on Daly-Miller Writing Apprehension Instrument

<table>
<thead>
<tr>
<th>Subject</th>
<th>L1 Apprehension</th>
<th>L2 Apprehension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw</td>
<td>z1*</td>
</tr>
<tr>
<td>Frank</td>
<td>78</td>
<td>-0.95</td>
</tr>
<tr>
<td>Kei</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Wang</td>
<td>94</td>
<td>+0.13</td>
</tr>
<tr>
<td>Jolanta</td>
<td>124</td>
<td>+2.16</td>
</tr>
<tr>
<td>Liba</td>
<td>115</td>
<td>+1.55</td>
</tr>
<tr>
<td>Shiro</td>
<td>81</td>
<td>-0.75</td>
</tr>
</tbody>
</table>

* z1 Compared with ESL peers: N 58, Mean 92.05, S.D. 14.79
** z2 Compared with norm: N 164, Mean 79.28, S.D. 18.86
*** z1 Compared with ESL peers: N 63, Mean 81.78, S.D. 15.10

1. Writing Apprehension

On the Daly-Miller instrument, high scores reflect low writing apprehension. The z-scores reported in Table 5 indicate lower levels of first-language writing apprehension than those of their ESL peers for three of the six subjects, Jolanta, Liba, and Wang. Scores for Frank and Shiro indicate they are more apprehensive about writing in their first languages than their ESL peers. Because Kei had had minimal experience writing in Japanese, this subject was unable to complete the instrument for first-language writing apprehension.

Compared with the norm group for this instrument, only one subject, Frank, was more apprehensive about writing in his first language.
Table 5 also indicates that three of the subjects, Frank, Liba, and Shiro, were more apprehensive about writing in English than their ESL peers. The same subjects were more apprehensive about writing in English than the norm group.

2. Text Anxiety

On the Alpert-Haber instrument, high scores indicate a tendency to be anxious about tests in general. The z-scores reported in Table 6 indicate that two of the subjects, Frank and Kei, are generally more anxious about tests than their ESL peers. Scores for Jolanta, Liba, and Shiro indicate general test-anxiety levels considerably lower than the average, while Wang's score is marginally lower.

Table 6: 

<table>
<thead>
<tr>
<th>Subject</th>
<th>Raw</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>68</td>
<td>+0.75</td>
</tr>
<tr>
<td>Kei</td>
<td>65</td>
<td>+0.38</td>
</tr>
<tr>
<td>Wang</td>
<td>61</td>
<td>-0.10</td>
</tr>
<tr>
<td>Jolanta</td>
<td>54</td>
<td>-0.95</td>
</tr>
<tr>
<td>Liba</td>
<td>46</td>
<td>-1.91</td>
</tr>
<tr>
<td>Shiro</td>
<td>50</td>
<td>-1.43</td>
</tr>
</tbody>
</table>

N 51 ESL peers (excluding subjects)
Mean: 61.82
S.D. 8.27
3. Facilitating and Debilitating Effects of Anxiety

The Alpert-Haber Achievement Anxiety Test takes into account both the negative and positive effects of test anxiety by utilizing two subscales, one to measure the facilitating effects and the other the debilitating effects of test anxiety; that is the degree to which anxiety may enhance or diminish ability to perform well. Low scores on the facilitating subscale reflect a low enhancing effect, while low scores on the debilitating subscale reflect a low negative effect.

As indicated in Table 7, z-scores for the six experimental subjects were considered together as a composite score and compared with standardized scores on this instrument. The resulting composite scores indicate that three subjects, Frank, Kei, and Wang are affected by general test anxiety to a greater extent than the norm group. Scores for the others, most notably Liba, indicate test anxiety affects them at levels lower than average.

B. Manipulation of Writing Situation Variables

Because the major difference under study was difference in performance of these writers in two situations, a non-test and an essay examination, two decisions were made in order to reduce the likelihood that the Situation 2 examination task was inherently more difficult than the non-test Situation 1. The variables manipulated were the writing time and difficulty level of the
Table 7: **Scores on Facilitating and Debilitating Subscales of Alpert-Haber Achievement Anxiety Test (Modified)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Facilitating</th>
<th></th>
<th>Debititating</th>
<th></th>
<th>Composite (z1 - z2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw</td>
<td>z1</td>
<td>Raw</td>
<td>z2</td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>22</td>
<td>-1.24</td>
<td>33</td>
<td>+1.25</td>
<td>+2.49</td>
</tr>
<tr>
<td>Kei</td>
<td>19</td>
<td>-1.94</td>
<td>27</td>
<td>+0.13</td>
<td>+2.07</td>
</tr>
<tr>
<td>Wang</td>
<td>25</td>
<td>-0.53</td>
<td>29</td>
<td>+0.50</td>
<td>+1.03</td>
</tr>
<tr>
<td>Jolanta</td>
<td>32</td>
<td>+1.11</td>
<td>20</td>
<td>+0.50</td>
<td>-0.61</td>
</tr>
<tr>
<td>Liba</td>
<td>31</td>
<td>+0.87</td>
<td>20</td>
<td>-1.18</td>
<td>-2.95</td>
</tr>
<tr>
<td>Shiro</td>
<td>29</td>
<td>+0.40</td>
<td>22</td>
<td>-0.99</td>
<td>-1.39</td>
</tr>
</tbody>
</table>

AAT Norms:
N 379
Mean 27.28
S.D. 4.27
Low score = Low anxiety

topics. The 120 minutes officially allocated to the examination was reduced to 100 minutes for the non-test situation, and topics provided for the non-test situation were intentionally more difficult than those provided for the examination.

**Topic Choice Manipulation**

To ensure that the Situation topics were more difficult, these procedures were followed:

1. Writing topics for the two situations were designed according to difficulty of the rhetorical mode. In the non-test
situation (Situation 1) the choice of topics was restricted to argument, cause and effect, and compare and contrast rhetorical modes.

2. In addition, all Situation 1 topics were designed to draw on knowledge outside the immediate personal experience of the writer. Topics for the non-test situation were:

   i. Is the censorship of books and films necessary to protect society? Give reasons why you agree or disagree.

   ii. Discuss the psychological and economic effects of the liberation of women on family life.

   iii. Were the lives of your parents easier than life is for people in your generation? Give reasons why you agree or disagree.

   iv. Discuss the causes and effects of a serious social problem in your native country.

3. The choice of topics in the examination Situation 2 involved two comparing and contrasting topics, drawing exclusively on the writer's own experiences, and a cause and effect topic for which the writer would be able to draw on personal specialized knowledge. Topics for Situation 2 were:

   v. Discuss the effects of a significant technological change.

   vi. Compare the way you used to spend your leisure time in the past with the way you spend your leisure time now.

   vi. Compare the ideas you had about Canadians before you came to Canada with your present impressions.

While this topic is of a personal nature, it requires knowledge of the experiences and context of the previous generation.
To ascertain further whether subjects chose a less difficult topic for the test task, topics were randomly arranged and rated by nine English composition specialists (ESL composition instructors) and 40 advanced ESL academic writing students. As indicated in Table 8, only one of the Situation 2 topics, Topic c\textsuperscript{4}, was ranked by these teachers and students to be more difficult than one of the Situation 1 topics, Topic e\textsuperscript{5}. Furthermore, as indicated in Table 9, only one subject, Kei, chose to write on this topic and that was because, as he said in the Situation 2 interview, he had written on a similar topic several times before and felt that it would be the easiest of the three. Nevertheless, the topic he chose for Situation 2 (Topic c\textsuperscript{6}) was ranked considerably less difficult by the raters than the topic he chose for Situation 1 (Topic b\textsuperscript{6}).

In the interviews following the examination Situation 2, all six subjects claimed that the topics they chose to write on in Situation 2 were no more difficult than the topics they chose in Situation 1. It appears that the level of task difficulty could not be expected to result in poorer performance for any of the writers in the test situation.

\textsuperscript{4}Topic v. above

\textsuperscript{5}Topic iii. above

\textsuperscript{6}Topic i. above
Table 8: Topic Difficulty as Ranked by ESL Teachers and Students*

<table>
<thead>
<tr>
<th>Situation 1 Topics</th>
<th>Students</th>
<th>Teachers</th>
<th>Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>b</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>e</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>f</td>
<td>7</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Situation 2 Topics</th>
<th>Students</th>
<th>Teachers</th>
<th>Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>c</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>d</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>g</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*1 = Easiest
6 = Most Difficult

Table 9: Topics Selected by Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1</th>
<th>Situation 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>e</td>
<td>d</td>
</tr>
<tr>
<td>Kei</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Wang</td>
<td>e</td>
<td>g</td>
</tr>
<tr>
<td>Jolanta</td>
<td>e</td>
<td>d</td>
</tr>
<tr>
<td>Liba</td>
<td>b</td>
<td>g</td>
</tr>
<tr>
<td>Shiro</td>
<td>e</td>
<td>d</td>
</tr>
</tbody>
</table>
C. Situation 1 Procedures

The Video Taping

Once subjects had been selected, appointments were made for each to write the first (non-test) composition. Taping occurred in various rooms at the university over the course of two weeks with only the writer and the researcher present.

The video camera was positioned above the writer's left shoulder and focussed on the writing booklet which was bounded by taped borders on the table. To minimize any possible intrusive effects of the camera, the subject was invited to look through the viewfinder to confirm that only the paper and the writer's hand were being recorded. The subject was requested to keep the work within the bounds of the taped border.

Before beginning the writing task, each subject completed the Spielberger State Anxiety Inventory (1968) questionnaire (Appendix 6), a standardized self-report instrument designed to measure state anxiety (i.e., the degree to which the subject is anxious about the current situation).

The researcher then presented the following written instructions:

For the purposes of the research project, it will be valuable if you talk about what you are writing as you write. You may talk either in English or in your native language. No one will listen to you as you talk. Your talking will help you to discuss your writing in the interview after the writing. However, if you feel talking bothers you while you are writing, you may write in silence.
The researcher then demonstrated a brief think-aloud protocol involving a series of simple arithmetical operations. The subject was told that the video tape would be changed four times during the writing session so that a shorter tape would be available for use in the following interview. This would provide a recording of three 10-minute periods from the beginning, middle, and end of the writing session. The researcher then presented the following task instructions:

Directions: Write an essay of at least 300 words on ONE of the following topics. You may use an English-English dictionary if you wish. (Time: 100 minutes)

The subject was told that the time for this task would be 100 minutes, not the 120 minutes allocated for the official examination.¹

Once assured that the subject was comfortable and adequately equipped with a dictionary and a pen, the researcher presented the Situation 1 topics listed on Page 45. The subject was instructed to begin, the camera turned on, and the time noted. The researcher left the room and returned in 10 minutes to switch video tapes after which he left again, returning 35 minutes later to switch the camera back to the original tape. After another 10-minute absence, the researcher returned to switch the camera to the second tape for another 35-minute period. The researcher returned to switch the tape for the final segment at the 90-minute point and advised the subject of the 10 minutes remaining.

When the 100 minutes had elapsed, the researcher announced a

¹See p. 44 regarding manipulation of the task time.
break of about 15 minutes during which two photocopies of the paper and all preparatory notes were made for reference in the following interview and the shorter video tape containing the three 10-minute segments was rewound for viewing.

The Stimulated Recall Interview

Following the break, each subject was interviewed with the three-segment video tape serving as a stimulus to elicit reflections on the writing task. The interviews were audio taped and ranged from 45 to 60 minutes in length.

While much of the interview involved questions and responses emerging from the behaviors observed on the video tape, a checklist (Appendix 7) ensured that particular information was elicited in the following areas: effect of the research conditions (particularly the camera), topic selection procedures, extent of advance planning, and dependence on first language during the planning and drafting operations of the task.

D. Situation 2 Procedures

The Video Taping

Similar procedures to those in Situation 1 were followed for video taping the second writing task, the Situation 2 examination, about one month later. However, because this session was the full 120 minutes long, the video tapes were switched at the
10-, 55-, 65-, and 110-minute points. In addition, subjects were not requested to talk during the task because such instructions might have been intrusive in the examination situation. Prior to completing the Speilberger State Anxiety Inventory, each subject was presented with the following reminder on the topic assignment sheet:

Today you are writing the (course name) final examination. The paper you write will be marked with the other (course name) exams being given this week. If you pass, you won't need to take (course name) again. If you fail, you may have to repeat the course to prepare for the exam and your other studies will continue to be restricted until you pass the exam.

The Stimulated Recall Interview

Similar procedures to those in Situation 1 were followed for the Situation 2 interview. In addition, subjects were asked to report differences between the two situations. The interview checklist for Situation 2 included the following questions:

Did the camera bother you more than when you wrote the first essay?

Did you feel more nervous this time than last time?

Was this essay harder or easier than the first essay?

Do you feel this essay was better than the first essay?

Do you feel you did anything differently this time?

V. MEASURES

In order to compare differences in the performance of the subjects in the two situations, a number of measures were employed. The texts produced were compared on three measures:
differences in quality according to the ESL course assessment procedures, differences in error types occurring in the two texts, and differences in syntactic complexity.

In addition, process-tracing procedures enabled comparisons of time allocated to various composing stages (pre-writing, drafting, and post-draft activities), durations and types of pauses during forward inscribing, and frequencies of various types of alterations during inscribing.

A. Text Evaluation

Examination Evaluation

Texts written in both situations were evaluated according to the ESL course examination evaluation procedures which involve two independent markers tallying errors and other deficiencies of certain types which are given certain values (Appendix 8). The resulting total is weighted proportionately to the word count as it relates to the assigned 300-word minimum. The resulting negative score is deducted from 100 possible points. In cases of wide discrepancy between the assessments or when the assessment is near the pass-fail threshold, a third assessment is made (Appendix 9).

Deficiency Scores

Examination evaluation procedures for the ESL courses
involve assigning scores to two categories of deficiencies. Greater weights are assigned to aspects of content, organization, and sentence structure than to grammar, diction, and mechanics. For purposes of comparing texts written in the two situations, these assessment categories were classified as High and Low respectively and the deficit scores assigned by the two markers were averaged to obtain a measure of types of errors committed by the writers in the two situations.

**Syntactic Complexity**

Texts were also evaluated for syntactic complexity by measuring T-unit length, that is the length of a main clause with all of its modifiers including subordinate clauses (Hunt 1970). Mean T-unit lengths were then calculated for both texts written by each subject.

---

The following procedures were used to calculate T-unit lengths:

a. Abbreviations such as IC (integrated circuit), VCR (video cassette recorder), and 3-D (third dimension) were counted as one word, because the writer clearly perceived these to be indivisible lexical items.

b. Sentences composed of listed clauses were counted as more than one T-unit. For example, "Moreover, women look for their identity, family ties are weak, and divorces are increasing" was counted as three T-units.

c. In one instance where two questions comprised a list following a colon, the total was counted as one T-unit: "I am asking myself: 'What if I fall? Who would take care of my baby'?


B. Process Tracing

Time Allocation

Text lengths were determined by word count and words written per minute were calculated. In addition, the 24 hours of video tape were viewed to determine the time spent in pre-writing, inscribing, and post-drafting activity.

For these purposes, pre-writing time was defined as the minutes elapsed before the subject began inscribing the actual text. For instances when subjects wrote elaborate notes and outlines, laboriously revising and editing these (Appendix 10), the beginning of inscribing was defined as the point at which the writer signified an end to the pre-writing activity. Most common was the turning of the page and the writing of a title or indentation of the opening paragraph.

While much of the inscribing time for all subjects involved reading and altering the extant text, the end of the inscribing period was defined as the point at which the writer signified the end. Most common was the sequence of dramatically adding the final period, placing the pen on the table, uttering a sigh, and returning to the opening page to begin reading.

The period of post-drafting activity was defined as the time between the end of inscribing and the point at which the writer declared the task to be finished or when the allotted time had elapsed.
Forward Drafting (Inscribing): Sample Selection

The texts and the corresponding video records were examined simultaneously for each writer in each situation in order to identify samples of approximately 100 words to represent a period of inscribing, that is generating new text rather than altering or elaborating on extant text. In order to ensure that the sample selected represented the generation of new text, the video record and pre-writing notes and outlines were examined closely, and instances where extensive pre-writing activities resulted in structured language which was revised during the inscribing phase of the task were eliminated. As indicated in Table 10, the inscribing samples selected represented between 20 and 49 percent of the time spent inscribing. As indicated in Table 11, the samples represented between 18 percent (in the case of Liba's second text) and 44 percent (in the case of Kei's Situation 1 Text) of the words written by the six subjects on the two occasions.

1. Classification of Pauses and Alterations in Inscribing Samples

The inscribing samples were transcribed and pauses of more than 10 seconds were measured during examination of the video records. These pauses recorded for all subjects were grouped in five-second intervals to establish larger intervals for interpretative purposes. Distribution of frequencies of pauses of various lengths are presented in Figure 1.
Table 10: Time of Inscribing Samples Selected*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1 Sample</th>
<th>Situation 2 Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inscribing Time</td>
<td>Sample Time</td>
</tr>
<tr>
<td>Frank</td>
<td>46</td>
<td>8.97</td>
</tr>
<tr>
<td>Kei</td>
<td>50</td>
<td>16.78</td>
</tr>
<tr>
<td>Wang</td>
<td>39</td>
<td>12.77</td>
</tr>
<tr>
<td>Jolanta</td>
<td>81</td>
<td>23.28</td>
</tr>
<tr>
<td>Liba</td>
<td>79</td>
<td>31.88</td>
</tr>
<tr>
<td>Shiro</td>
<td>66</td>
<td>17.33</td>
</tr>
</tbody>
</table>

* Minutes, expressed in decimals. (As noted on page 34, the High Anxious subjects are in the initial positions in all Tables.)

Table 11: Words in Inscribing Samples Selected

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1 Sample</th>
<th>Situation 2 Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Words</td>
<td>Sample Words</td>
</tr>
<tr>
<td>Frank</td>
<td>437</td>
<td>107</td>
</tr>
<tr>
<td>Kei</td>
<td>273</td>
<td>119</td>
</tr>
<tr>
<td>Wang</td>
<td>401</td>
<td>120</td>
</tr>
<tr>
<td>Jolanta</td>
<td>431</td>
<td>109</td>
</tr>
<tr>
<td>Liba</td>
<td>351</td>
<td>95</td>
</tr>
<tr>
<td>Shiro</td>
<td>413</td>
<td>94</td>
</tr>
</tbody>
</table>
Because of the high frequency of pauses ranging from 10 to 29 seconds in length, this interval was established as one measure. A second interval ranging from 30 to 59 seconds was established as a measure of mid-length pauses. Pauses of greater than 60 seconds, far less frequent than the others, were established as a third measure. Because the frequency clustering
reveals no apparent difference in frequencies of pauses of various lengths between the two writing situations, the interval boundaries were set at 30 and 60 seconds.

Subsequently, durations and locations of these pauses were noted on the transcriptions and assigned a number for identification (Appendix 11).

**Inscribing Rates**

Pause lengths of greater than 10 seconds were added and the total subtracted from the duration of the inscribing sample to obtain a total for time spent either inscribing or in pauses of less than 10 seconds. The number of words produced in the inscribing sample was then divided by this total inscribing time to obtain an inscribing rate, that is, the speed with which the writer produced written text.

**Pausing Time During Inscribing**

The total time spent in pauses greater than 10 seconds was also divided by the duration of the inscribing sample to determine the proportion of time spent in pauses of greater than 10 seconds' duration.
Pause Locations During Inscribing

A classification procedure was used to distinguish points in which the writer may have been formulating a structured unit of text from those in which a low level search, perhaps of a purely lexical nature, was occurring.

Pause locations were classified according to four types. Type 1 pauses occurred between paragraphs, Type 2 between sentences, Type 3 at the beginnings of clauses or phrases, and Type 4 within a clause or phrase. Instances where the writer indicated the end of a paragraph or sentence and later extended it were classified as Type 1 or Type 2 pauses. Instances in which the pause occurred after the opening word of a phrase or clause, for example, a preposition, relative pronoun, or other clause marker, the pause was classified as a Type 3 pause. A pause preceding a predicate in a compound sentence with an elliptical subject was classified as a Type 3 pause because consciousness of the structure of the preceding clause was necessary in order to continue. Type 4 pauses were those occurring elsewhere in the sentence, frequently between subjects and verbs.

2. Alterations

The video record of each inscribing sample was examined closely and transcribed using an adaptation of the notation

\[\text{For example, for the following structure, "... they were born between two world wars and (Pause) participated in the second one. ..."}, \text{ the pause was classified as a Type 3 pause.}\]
system developed by Matsuhashi (1987) to record all alterations to the extant text including deletions, additions, and points in the inscribing where the alteration occurred (Appendix 12).

Each alteration in the 12 inscribing samples was then identified by number and coded as conceptual, discourse, mechanical, lexical, or cosmetic according to the following definitions:

**Conceptual:** Altering the essential idea, meaning, or gist

**Discourse:** Attending to coherence; a reflection of organizational or rhetorical considerations; a change in the intensity of expression

**Mechanical:** Involving orthography, morphology, and syntax (punctuation, spelling, grammatical forms, rule-governed structures) and formulaic devices.

**Lexical:** Involving word choice only (not bearing on discourse or altering essential meaning)

Any alterations classified as both lexical and of another type (mechanical, discourse, or conceptual) were counted as the higher order type. For example, in his Text 2, Wang performed the following change: "In (particular) [general]. . . ." By deleting "particular" and replacing it with "general," the writer made a lexical choice. However, because the alteration reflects a consciousness of content which will follow and will necessitate a change in that content, it was classified as discourse.

**Cosmetic Alterations**

Because some of the writers exhibited a strong tendency to reform letters both at the inscription point and during reading
of extant text, a fifth classification, Cosmetic, the reformation of letters was made.

**High and Low Level Alterations**

Alterations classified as Lexical and Mechanical alterations were further classified as Low Level considerations and those classified as Discourse and Conceptual alterations as High Level.

**Generative Alterations**

Alterations were also classified as generative or non-generative, depending on whether or not they were deemed necessary to enable the writer to continue the forward inscribing.

**Improving Alterations**

Finally any alterations which represented improvements to the extant text were classified as improving alterations. Included were all appropriate corrections and changes deemed to enhance the quality of the writing.

**C. Coding Agreement**

In coding the pauses and alterations, agreement checks were conducted between classifications by the researcher and a Language Education graduate student. Agreement was calculated as
a simple percentage of the proportion of items on which the raters agreed.

The check for the pause locations involved four of the 12 texts equalling 37 per cent of the total pauses of greater than 10 seconds (72 of the total 195). Inter-rater agreement was .93.

In coding the alteration types, a check on four of the 12 texts involved 36 per cent of the total alterations (66 of the total 185). Inter-rater agreement was .91. No check was conducted on the cosmetic alterations because these were readily visible and non-interpretive.

Checking of alterations classified as generative or non-generative involved the same four texts and yielded an inter-rater agreement of .94. The same texts were rated separately for alterations classified according to whether or not they were improvements, yielding an inter-rater agreement of .87.

VI. DATA PRESENTATION AND ANALYSIS

Because of the limited applicability of statistical methods imposed by the small number of specially targeted subjects involved in this study, the data are presented in a descriptive fashion comparing texts and behaviours in the two situations, focusing on subjects who reported high levels of test anxiety where relationships between the reported anxiety and behaviour variation were evident. Where comparisons were made, most involved rankings of the six subjects on the various measures and
ratio comparisons between data collected in the two situations.

Because a number of the measures employed were not interval in nature, and because of the interest in comparing subjects as they ranked in relation to others on various measures, Spearman rank correlations were used instead of product-moment correlations.

The small number of subjects often resulted in comparisons that were not statistically significant at the .95 or .99 levels of confidence, but are nonetheless of interest in an exploratory study such as this.

\[\text{For } n = 6 \text{ at } p < .05, \text{ a Spearman rank correlation of .829 is required for statistical significance. A Spearman rank correlation of .943 is required at } p < .01. \text{ Had the number of subjects been nine, the levels of confidence would have been .600 and .783 at } p < .05 \text{ and .01 respectively. At } n = 12, \text{ these levels of confidence would have been .497 and .591.}\]
CHAPTER FOUR

RESULTS

The findings of the study, presented in this chapter, address the research questions posed in Chapter 1. Presented are findings relating trait and state anxiety to writing apprehension (as described in Chapter 3). Also reported are findings regarding the quality of text produced by the six writers in the two situations and descriptions of the ways in which the writers allocated their time. Findings related to process tracing, involving the samples described in Chapter 3, examine pausing behaviours and alterations to extant text made by the writers in the two situations. Finally, general proficiency in English as indicated by scores on the TOEFL is related to a number of the measures employed.

However, before turning to the findings, a review of the research questions is in order.

I. THE RESEARCH QUESTIONS

As presented in Chapter 1, the questions addressed by this study are

1. What observable differences are there in the quality of text produced by six Academic ESL writers composing an essay in a
non-test situation compared with the quality of text they produce in an essay examination which tests proficiency in written English?

2. What observable differences are there in the approaches to the non-test and examination writing tasks among the subjects involved?

a. For example, what observable differences are there in approaches to planning, drafting, and revising?

b. What observable differences are there in the ways the writers allocate their time to these different activities while composing in two different situations?

c. What observable differences are there in the frequencies, durations, and locations of pauses for these writers while they compose in the non-test and examination situations?

d. What observable differences are there in attention to mechanical and lexical features of text while they revise in the non-test and examination situations?

e. What observable differences are there in attention to matters of a conceptual or discourse nature while they revise in these two situations?
3. Are relationships evident between variations in the behaviour of these writers in the examination and non-test situations and levels of test anxiety reported by subjects?

4. Are relationships evident between levels of writing apprehension reported by the subjects and levels of test anxiety they report?

5. Are relationships evident between the general proficiency in English of these writers and the various indicators of writing behaviour employed in this study?

6. If for a given writer, differences between the non-test and examination situations are evident, what explanations can the writer offer?

II. STATE AND TRAIT ANXIETY

For each subject, z-scores were calculated based on the standardized norms for college students on the Spielberger Inventory administered at the outset of the two writing situations. Norms for females were applied to the two female subjects. Because the primary difference under study was that between the two situations, differences between the z-scores in the two situations were calculated and subjects were ranked according to these differences which reflect the increase in state anxiety in the examination Situation 2 over state anxiety in the non-test
Situation 1. Scores for the six subjects on the two occasions, the resulting z-scores, and their differences are presented in Table 12.

Increases in z-scores for four subjects, Frank, Wang, Kei, and Liba indicated increases in state anxiety from Situation 1 (the non-test) to Situation 2 (the examination) ranging from +.12 to +1.70. Scores for Jolanta and Shiro indicated decreases in anxiety levels of .71 and .19 respectively.

It appears that four of the subjects, Frank, Wang, Kei, and Liba, were more anxious in the examination situation than were the other two, Jolanta and Shiro.

Table 12: **Scores on Spielberger State Anxiety Inventory**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1</th>
<th>Situation 2</th>
<th>Difference in z</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw  z</td>
<td>Raw  z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>35 -0.15</td>
<td>52 +1.55</td>
<td>+1.70</td>
<td>1</td>
</tr>
<tr>
<td>Kei</td>
<td>45 +0.85</td>
<td>48 +1.15</td>
<td>+0.30</td>
<td>3</td>
</tr>
<tr>
<td>Wang</td>
<td>40 +0.35</td>
<td>51 +1.45</td>
<td>+1.10</td>
<td>2</td>
</tr>
<tr>
<td>Jolanta*</td>
<td>53 +1.19</td>
<td>43 +0.35</td>
<td>-0.71</td>
<td>6</td>
</tr>
<tr>
<td>Liba*</td>
<td>37 +0.15</td>
<td>42 +0.27</td>
<td>+0.12</td>
<td>4</td>
</tr>
<tr>
<td>Shiro</td>
<td>24 -1.24</td>
<td>26 -0.15</td>
<td>-0.19</td>
<td>5</td>
</tr>
<tr>
<td>Means:</td>
<td>39.00</td>
<td>43.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.D.</td>
<td>9.78</td>
<td>9.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Norms:**
- Mean 36.47
- S.D. 10.02
- N 324 College Students

**Females:**
- Mean 38.76
- S.D. 11.95
- N 531 College Students
To determine whether a relationship was apparent between increases in state anxiety for the Situation 2 examination and general trait anxiety in testing situations, rankings of these increases were compared with rankings of z-scores on the modified Alpert-Haber Achievement Anxiety Test presented in Table 13.

A Spearman rank correlation calculation on these measures yielded a moderately high coefficient of .71, which, although not statistically significant\(^1\), suggests that, for these subjects, general anxiety in testing situations was related to increases in state anxiety toward the particular Situation 2 examination. A similar comparison of the ranks for increases in state anxiety with the composite z-scores on the trait anxiety facilitating and debilitating subscales (presented in Table 7, Chapter 3) likewise

\[
\text{Table 13: Scores on Alpert-Haber Achievement Anxiety Test}
\]

\[
\begin{array}{cccc}
\text{Subject} & \text{z-score*} & \text{Rank} \\
\hline
\text{Frank} & +0.75 & 1 \\
\text{Kei} & +0.38 & 2 \\
\text{Wang} & -0.10 & 3 \\
\text{Jolanta} & -0.95 & 4 \\
\text{Liba} & -1.91 & 6 \\
\text{Shiro} & -1.43 & 5 \\
\end{array}
\]

\*\text{N: 51 ESL peers (excluding subjects)}
\text{Mean: 61.82}
\text{S.D. 8.27}

\(^1\text{The critical value for } p < .05 \text{ is } 0.829 \text{ where } n = 6\.)
yielded a moderately high correlation coefficient of .69.

Because on both instruments, scores for three subjects Frank, Kei, and Wang, indicate levels of anxiety higher than levels indicated for the others, these subjects were regarded as High Anxious and the others as Low Anxious for further comparisons.

III. ANXIETY AND WRITING APPREHENSION

To determine if increases in state anxiety regarding the examination were related to subject reports of writing apprehension, a Spearman correlation was calculated for the ranks on increases in reported anxiety between the situations and levels of writing apprehension reported by the subjects. The comparison of ranks for anxiety increase (as shown in Table 12) and the ranks of scores for apprehension about writing in English (as reported in Table 7, Chapter 3) yielded a coefficient of -0.14 (where the critical value for p < .05 is .83).

A low inverse relationship is suggested between levels of apprehension about writing in English reported by these subjects and increases in their anxiety from the first situation to the second. In other words, if English writing apprehension and anxiety increase were related for these writers, the more comfortable they were with writing in English, the more anxious they became about the examination.

A similar comparison of ranks for apprehension about writing in English and ranks on the Achievement Anxiety Test (presented
in Table 13) likewise indicated an inverse relationship between writing apprehension and general anxiety toward testing situations (rho = -.48).

These comparisons suggest that the degree to which these six writers are apprehensive about writing in English was not closely related to increases in their anxiety levels when they encountered the examination situation or to their anxiety regarding testing in general. However, because the inverse relations in the two comparisons result largely from extreme scores by Wang and Liba respectively, these data and resulting correlations must be viewed with caution.

Writing Apprehension in L1 and in English

Perhaps there is a relationship between the degree to which a writer is more or less comfortable about writing in English compared to the first language and increases in anxiety in an examination situation. To address this question, the differences were calculated between z-scores for first-language writing apprehension and z-scores for apprehension about writing in English. These differences, reported in Table 14, indicate the degree to which the writer is more comfortable writing in one language than in the other.

These differences indicate two subjects, Frank and Wang, were less apprehensive about writing in English than in their first languages, while this difference for Shiro indicates a slightly greater apprehension about writing in English. Differ-
Table 14: Ranks for Writing Apprehension*

<table>
<thead>
<tr>
<th>Subject</th>
<th>z-Score for L1</th>
<th>Rank</th>
<th>z-Score for L2</th>
<th>Rank</th>
<th>L1-L2 Difference</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>-0.95</td>
<td>1</td>
<td>-0.38</td>
<td>3</td>
<td>-0.57</td>
<td>2</td>
</tr>
<tr>
<td>Kei</td>
<td>N/A</td>
<td>N/A</td>
<td>+0.27</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Wang</td>
<td>+0.13</td>
<td>3</td>
<td>+0.81</td>
<td>6</td>
<td>-0.68</td>
<td>1</td>
</tr>
<tr>
<td>Jolanta</td>
<td>+2.16</td>
<td>5</td>
<td>+0.54</td>
<td>5</td>
<td>+1.62</td>
<td>4</td>
</tr>
<tr>
<td>Liba</td>
<td>+1.55</td>
<td>4</td>
<td>-2.57</td>
<td>1</td>
<td>+4.12</td>
<td>5</td>
</tr>
<tr>
<td>Shiro</td>
<td>-0.75</td>
<td>2</td>
<td>-0.91</td>
<td>2</td>
<td>+0.16</td>
<td>3</td>
</tr>
</tbody>
</table>

* Source: Table 7, Chapter 3
(High scores indicate low writing apprehension.)

ences in scores for Jolanta, and more notably Liba, both of whom expressed very low apprehension about first-language writing, indicate they were much less comfortable about writing in English than in their first languages.

Because no L1 writing apprehension scores were available for one subject, Kei, his scores were removed and a Spearman rank calculation compared these L1-L2 writing apprehension differences with increases in state anxiety from the first to the second situation. The resulting coefficient of .60 indicates a moderate relationship between the writer's preference for writing in English and a increase in state anxiety level. Although not statistically significant (where the critical value for p < .05 is .90), this suggests the writers who preferred writing in English to writing in their first languages were more anxious in
the examination than in the non-test situation. These data could be misleading; perhaps, for the writers who preferred writing in English over writing in L1, Frank and Wang, their relatively high proficiency in English (as will be examined more fully later) accounted for their lower apprehension about writing in English. Perhaps their anxiety levels were quite unrelated.

A final comparison of the ranks in z-scores for apprehension about writing in English and the difference between L1 and L2 apprehension (as reported in Table 14) yielded a correlation coefficient of -.70. While this is not statistically significant, an inverse relationship is suggested; that is, a writer who expressed a low level of apprehension about writing in English (for example, Wang) showed a preference for writing in English over writing in his first language. It is not surprising that conversely, the writer who expressed the highest level of apprehension about writing in English, Liba (who had a z-score of -2.57) showed far greater preference for writing in her first language than did any of the others.

IV. THE TEXTS

The texts written in the two situations were assessed for variations of three types: in quality according to procedures used in the ESL course, in error or deficiency types and scores (also according to examination assessment criteria used in the course), and for syntactic complexity according to T-Unit length.
A. TEXT QUALITY

Scores for the six subjects on the two texts produced, with Text 1 being the non-test and Text 2 being the examination, are presented in Table 15. Variation between the two scores was ranked according to increase in quality of the Situation 2 text as assessed by course examination procedures.

According to the assessment procedures used, quality of text for four subjects writing in the examination situation, Wang, Liba, Kei, and Jolanta, was poorer than quality of text written in Situation 1\(^2\). Two of these, Wang and Kei, who were among the High Anxious group, ranked 6 and 4 respectively on text quality increase. Frank, who ranked as the subject most anxious in test situations generally and whose reported state anxiety increased

<table>
<thead>
<tr>
<th>Subject</th>
<th>Text 1 Raw</th>
<th>Text 2 Raw</th>
<th>Variation Raw</th>
<th>Variation %</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>58</td>
<td>64</td>
<td>+6</td>
<td>+.10</td>
<td>2</td>
</tr>
<tr>
<td>Kei</td>
<td>45</td>
<td>40</td>
<td>-5</td>
<td>-.07</td>
<td>4</td>
</tr>
<tr>
<td>Wang</td>
<td>79</td>
<td>65</td>
<td>-14</td>
<td>-.18</td>
<td>6</td>
</tr>
<tr>
<td>Jolanta</td>
<td>55</td>
<td>51</td>
<td>-4</td>
<td>-.07</td>
<td>3</td>
</tr>
<tr>
<td>Liba</td>
<td>53</td>
<td>41</td>
<td>-8</td>
<td>-.15</td>
<td>5</td>
</tr>
<tr>
<td>Shiro</td>
<td>48</td>
<td>67</td>
<td>+19</td>
<td>+.40</td>
<td>1</td>
</tr>
</tbody>
</table>

\(^2\)even though all of the writers claimed the examination essay was easier than the non-test paper.
the most for the test situation, produced a paper deemed by the markers to be of higher quality in the test situation. The least anxious subjects, Jolanta and Liba, produced poorer quality papers in the test situation, and Shiro, who likewise scored low for anxiety on all measures, produced a paper assessed to be of remarkably higher quality. With perhaps the exceptions of Wang and Kei, two High Anxious subjects, there appeared to be little relation between anxiety and quality of texts produced.

Nevertheless, as Table 15 indicates, great variation in quality occurred between the two situations ranging from decreases in quality of seven per cent for Kei and Jolanta to an improvement of 40 per cent in the case of Shiro. The "composition fluctuation" documented by Anderson (1960) and Kincaid (1953) for subjects writing in English as a native language is clearly evident for the writers in this ESL group.

B. Deficiency Scores

When assessed according to errors and other deficiencies, the texts likewise revealed variability among the subjects across the two situations. Table 16 reports the deficiency scores (the points deducted) on the 12 papers and compares deficiency types in the two texts produced by each writer, where High represents deficits assigned to aspects of content, organization, and sentence structure and Low designates negative scores for errors in grammar, diction, and mechanics.

The ratios reported in Table 16 represent the points
deducted for high-level deficiencies compared to those deducted for low-level errors. Between the test and non-test situations, subjects were highly varied in the types of errors and deficiencies exhibited by their texts.

While the examination texts produced by Frank and Jolanta exhibited little difference in deficiency types from their earlier texts (three and eight per cent respectively), notable differences were evident for the other four writers.

In the second situation (the Text 2 examination), texts produced by Shiro and Wang exhibited considerably greater high-level deficiency (45 and 20 per cent respectively). It appears that these two writers paid less attention to matters of content, organization, and sentence structure and focussed more on grammar, diction, and mechanics in their examination papers than in their non-test compositions.

Table 16: Deficiency Scores

<table>
<thead>
<tr>
<th>Subject</th>
<th>Text 1</th>
<th>Text 2</th>
<th>T1 - T2 Difference</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>Ratio H/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>Ratio H/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>18</td>
<td>46</td>
<td>.39</td>
<td>.03</td>
</tr>
<tr>
<td>Kei</td>
<td>29</td>
<td>48</td>
<td>.60</td>
<td>.24</td>
</tr>
<tr>
<td>Wang</td>
<td>5</td>
<td>24</td>
<td>.21</td>
<td>-.20</td>
</tr>
<tr>
<td>Jolanta</td>
<td>20</td>
<td>35</td>
<td>.57</td>
<td>.08</td>
</tr>
<tr>
<td>Liba</td>
<td>20</td>
<td>31</td>
<td>.65</td>
<td>.22</td>
</tr>
<tr>
<td>Shiro</td>
<td>15</td>
<td>57</td>
<td>.26</td>
<td>-.45</td>
</tr>
</tbody>
</table>
Conversely, Situation 2 texts by Kei and Liba showed greater low-level deficiency (24 and 22 per cent respectively); that is, in the examination, these writers appear to have focussed more on content, organization, and sentence structure (in relation to the attention they devoted to grammar, diction, and mechanics) than they did in their non-test compositions. Perhaps this can be explained by the ease of topic for these two writers. Did their relative comfort with the Situation 2 topic enable them to focus more on content and rhetorical matters than on lower-level concerns?

Text Quality and Deficiency

Perhaps greater attention to high-level concerns of content, organization and sentence structure would be reflected in the quality of the writing generated. To determine if this were the case, a comparison was made of ranks for increases in text quality (Table 15) and ranks on the differences in High-Low deficiency ratios on the two texts. As reported in Table 16, subjects were ranked according to the degree to which their deficiency ratios varied between the two texts. A Spearman correlation comparing these ranks indicated little or no rela-

\[\text{In the situation 2 interviews, Kei (who wrote twice as many words in the examination essay) revealed he had chosen a topic on which he had written several times before, and Liba (who generated 60 per cent more words than she wrote in the non-test situation) claimed the examination topic was much easier for her and that she knew what she would write before she began.}\]
tionship (rho = .09, where the critical value for p < .05 is .83).

No relationship appears to have existed between a change in attention to high-level aspects of text generation and an improvement in text quality according to assessment procedures used for the ESL course examination. Greater or less attention to high-level features of content, organization, and sentence structure in one situation or the other appears to have had little effect on text quality.

The most noteworthy case in point is quality variation in the texts produced by Shiro, whose examination text showed the greatest improvement among all subjects over the first text. However, Shiro's examination text exhibited the greatest increase in high-level deficiency over his non-test composition. As Table 16 indicates, Shiro lost only two more points for high-level deficiencies in his examination text than he did in his non-test paper (17 and 15 respectively). Shiro's relatively greater attention to grammar, diction, and mechanics in the examination essay (for which he reduced his deficiency score from 57 to 24 points) clearly accounts for the improvement in quality.

Deficiency and Anxiety

To determine if differences in attention to high-level concerns rather than to concerns about grammar, diction, and mechanics was related to differences in anxiety in the two situations, ranks on these two measures were compared. A
Spearman rank correlation of the difference in ratios of High to Low deficiency scores for the two texts and increases in state anxiety (Table 12) indicated little or no relationship (rho = .20, where the critical value for p < .05 is .83). This suggests that an increase in anxiety in the examination did not coincide with a change in attention to higher or lower features of text.

C. Syntactic Complexity

Mean T-unit lengths for both texts written by each subject, the variation in these from one situation to the next, and ranks of these variations are presented in Table 17.

For all subjects, mean T-unit length for texts produced in the examination situation was greater than in the non-test compositions, on average, an increase of 14 per cent (from 15.97 to 18.14 words). A Spearman correlation of rankings of mean T-unit lengths yielded a coefficient of .94, indicating a significant relationship among subjects on this measure (where the critical value for p < .05 is .83): For whatever reasons, not only did these writers produce more syntactically complex texts in the examination situation, but the increase in the complexity of their texts was also proportionate to increases by the other five writers.

Within subjects, however, increases in syntactic complexity from the first to the second situation varied greatly. As Table 17 indicates, mean T-unit length increased from three per cent (in the cases of Frank and Wang) to 29 per cent in the case of
Table 17: Mean T-Unit Length

<table>
<thead>
<tr>
<th>Subject</th>
<th>Text 1</th>
<th></th>
<th></th>
<th>Variation</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>n</td>
<td>R</td>
<td>Mean</td>
<td>n</td>
</tr>
<tr>
<td>Frank</td>
<td>11.84</td>
<td>37</td>
<td>6</td>
<td>12.21</td>
<td>33</td>
</tr>
<tr>
<td>Kei</td>
<td>18.07</td>
<td>15</td>
<td>2</td>
<td>22.95</td>
<td>22</td>
</tr>
<tr>
<td>Wang</td>
<td>22.28</td>
<td>18</td>
<td>1</td>
<td>22.94</td>
<td>16</td>
</tr>
<tr>
<td>Jolanta</td>
<td>16.50</td>
<td>26</td>
<td>3</td>
<td>21.30</td>
<td>23</td>
</tr>
<tr>
<td>Liba</td>
<td>13.81</td>
<td>26</td>
<td>4</td>
<td>15.19</td>
<td>37</td>
</tr>
<tr>
<td>Shiro</td>
<td>13.32</td>
<td>31</td>
<td>5</td>
<td>14.23</td>
<td>26</td>
</tr>
<tr>
<td>Means:</td>
<td>15.97</td>
<td></td>
<td></td>
<td>18.14</td>
<td></td>
</tr>
</tbody>
</table>

A relationship may be evident between these within-subject changes and the measure for increase in state anxiety from Situation 1 to Situation 2. A Spearman correlation of rankings on these measures, presented in Table 18, indicated a moderately high inverse relation \( \rho = .73 \). While this is not statistically significant (the critical value for \( p < .05 \) is .83), a relationship between these two measures is suggested; that is, the greater increase in anxiety experienced by the writer, the less increase in mean T-unit length or the less increase in complexity of the writing produced.

In the case of Jolanta, for instance, a decrease in reported state anxiety between the two situations, ranked her in the least anxious position. The mean T-unit length for her Situation 2 text was 29 per cent greater than in her former text. Likewise,
Frank and Wang, who ranked highest for anxiety increases, produced examination texts with only three per cent greater complexity than their non-test compositions.

On the other hand the third High Anxious subject, Kei produced an examination text 27 per cent more syntactically complex than his Situation 1 text. Perhaps this was because, as he revealed in the Situation 2 interview, for the examination composition he chose a topic on which he had previously written several times and thus was able to devote a greater amount of attention to syntactic aspects than to generation and organization of content.

**Syntactic Complexity and Text Quality**

To determine whether increases in mean T-unit length were related to improvement in text quality (reported in Tables 15 and

**Table 18: Anxiety Increases and Mean T-Unit Length Increases**

(Ranks)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Anxiety Increase</th>
<th>Mean T-Unit Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>1</td>
<td>5.5</td>
</tr>
<tr>
<td>Kei</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Wang</td>
<td>2</td>
<td>5.5</td>
</tr>
<tr>
<td>Jolanta</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Liba</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Shiro</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>
a Spearman correlation was conducted on rankings for the six subjects, indicating a low to moderate inverse relationship ($\rho = -0.36$). While this is not statistically significant (the critical value for $p < 0.05$ is 0.83), a relationship is suggested; that is, increases in mean T-unit length may have negatively affected quality of the examination papers for these writers. Indeed, as indicated in Table 19, in texts by writers for whom mean T-unit length increased the most, Jolanta and Kei, the quality decreased according to the evaluation procedures used. On the other hand, only slight increases in mean T-unit length accompanied improvements in quality for texts by Frank and Shiro.

V. TIME ALLOCATION

In examining how these writers used their time in the non-test and examination situations, considerations involved writing rates, the proportions of time allocated to various text genera-

<table>
<thead>
<tr>
<th>Subject</th>
<th>Text 1 - 2 Variation</th>
<th>Rank</th>
<th>Mean T-Unit Increase</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>+6</td>
<td>0.10</td>
<td>5</td>
<td>0.03</td>
</tr>
<tr>
<td>Kei</td>
<td>-5</td>
<td>0.07</td>
<td>3</td>
<td>0.27</td>
</tr>
<tr>
<td>Wang</td>
<td>-14</td>
<td>0.18</td>
<td>1</td>
<td>0.03</td>
</tr>
<tr>
<td>Jolanta</td>
<td>-4</td>
<td>0.07</td>
<td>4</td>
<td>0.29</td>
</tr>
<tr>
<td>Liba</td>
<td>-8</td>
<td>0.15</td>
<td>2</td>
<td>0.10</td>
</tr>
<tr>
<td>Shiro</td>
<td>+19</td>
<td>0.40</td>
<td>6</td>
<td>0.07</td>
</tr>
</tbody>
</table>
tion activities, and relationships of these to reported increases in state anxiety.

A. Writing Rates

Table 20 reports writing rates based on the total words written and the time used and the variation in these from the first to the second situation.

Three subjects, Frank, Shiro, and Wang, wrote substantially fewer words in the examination, while the others wrote longer texts. One subject, Kei in Situation 1, wrote fewer than the 300 words assigned, a word-count which he doubled in the examination situation. In the Situation 2 interview, Kei attributed this increase to familiarity with the examination topic on which he had written several times before. Liba attributed her word-count increase in Situation 2 to ease of writing on a topic which drew on her own experience.

Of the six subjects, only two did not use the total time allocated. In both situations, Frank declared the writing to be finished well before the deadline, and in Situation 2, Liba declared her examination essay, in which she wrote 60 per cent more words than in the non-test Situation 1, to be finished eight minutes before the deadline.

Writing rates decreased in the examination situation for three subjects, two of whom, Frank and Wang, were among the High Anxious group.
Table 20: Writing Rates

<table>
<thead>
<tr>
<th>Subject</th>
<th>Word Total</th>
<th>Time*</th>
<th>Words per minute</th>
<th>Word Total</th>
<th>Time</th>
<th>Words per minute</th>
<th>Rate Variation (%) S2/S1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>437</td>
<td>82</td>
<td>5.33</td>
<td>411</td>
<td>100</td>
<td>4.11</td>
<td>-.23</td>
</tr>
<tr>
<td>Kei</td>
<td>273</td>
<td>103</td>
<td>2.65</td>
<td>545</td>
<td>120</td>
<td>4.54</td>
<td>+1.71</td>
</tr>
<tr>
<td>Wang</td>
<td>401</td>
<td>111</td>
<td>3.61</td>
<td>371</td>
<td>120</td>
<td>3.09</td>
<td>-.14</td>
</tr>
<tr>
<td>Jolanta</td>
<td>431</td>
<td>111</td>
<td>3.88</td>
<td>489</td>
<td>120</td>
<td>4.08</td>
<td>+.05</td>
</tr>
<tr>
<td>Liba</td>
<td>351</td>
<td>102</td>
<td>3.44</td>
<td>561</td>
<td>112</td>
<td>5.00</td>
<td>+.45</td>
</tr>
<tr>
<td>Shiro</td>
<td>413</td>
<td>100</td>
<td>4.13</td>
<td>370</td>
<td>120</td>
<td>3.08</td>
<td>-.26</td>
</tr>
</tbody>
</table>

* in minutes

B. Proportions of Time in Different Activities

Because of the brevity of the 300-word assignment and the considerable writing period of 100-120 minutes, the comparisons of word counts and writing rates were of minimal interest. Of greater interest in comparing the processes employed by these writers in the two situations were the differences in the proportion of time they allocated to various activities of text.

\(^2\)In the non-test 100-minute Situation 1, two subjects, Jolanta and Wang, asked for additional time. Because the writing period had been intentionally reduced from the 120 minutes allowed for the official examination, and because their writing processes and text quality were features of greater interest than were time constraints in Situation 1, the request for additional time was granted.
generation, namely pre-writing, inscribing, and post-inscribing activities. The time allocated by these writers to these three activities (defined in Chapter 3) is presented in Table 21.

Observed collectively, these six writers allocated less time to both pre-writing and inscribing activities in the examination situation than in the non-test situation, although for all of them, the time available in Situation 2 was considerably longer. Of particular interest are the cases of Kei and Liba, who produced texts respectively 100 and 60 per cent longer than in the non-test Situation 1. In contrast, their inscribing time increased respectively by only 13 per cent (from 52 to 65 minutes) and by four per cent (from 81 to 92 minutes). Perhaps this can be attributed to ease of topic; that is, perhaps Kei,

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1</th>
<th></th>
<th></th>
<th>Situation 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Inscribing</td>
<td>Post</td>
<td>Time*</td>
<td>Pre</td>
<td>Inscribing</td>
</tr>
<tr>
<td>Frank</td>
<td>6</td>
<td>38</td>
<td>38</td>
<td>82</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>Kei</td>
<td>49</td>
<td>52</td>
<td>2</td>
<td>103</td>
<td>52</td>
<td>65</td>
</tr>
<tr>
<td>Wang</td>
<td>14</td>
<td>43</td>
<td>54</td>
<td>111</td>
<td>13</td>
<td>37</td>
</tr>
<tr>
<td>Jolanta</td>
<td>19</td>
<td>90</td>
<td>2</td>
<td>111</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Liba</td>
<td>19</td>
<td>81</td>
<td>2</td>
<td>102</td>
<td>3</td>
<td>92</td>
</tr>
<tr>
<td>Shiro</td>
<td>11</td>
<td>66</td>
<td>23</td>
<td>100</td>
<td>18</td>
<td>74</td>
</tr>
</tbody>
</table>

* Total Task Time (in minutes)

Means: 19.2 60.2 20.7 15.8 58.2 26
who was familiar with the content because he had written on his Situation 2 topic several times previously, and Liba, who indicated she knew immediately what she would write on the examination topic, were able to generate far more words in approximately the same time.

The proportion of the total time allocated by these writers to the three writing activities is presented in Table 22. A Spearman rank correlation of proportions of time spent in pre-writing in the two situations indicated a low to moderate relationship between the two (rho = .37 where the critical value for p < .05 is .83). This suggests that the writers allocated their time differently to the three activities in the two situations. However, when the proportions were removed for Liba (whose Situation 2 pre-writing time was minimal because, as she said, the topic was easier), the correlation was statistically significant (rho = .90, where the critical value for p < .05 with n = 5 is .90). With the exception of Liba, these writers allocated time to pre-writing activities in similar proportions in the two situations.

They were also consistent in their allocation of time to inscribing and post-draft activities. Comparisons of rankings of the six writers for both of these activities in the two situations were highly significant (rho = .943, where the critical

Although Kei, like Liba, generated a far greater number of words in Situation 2 because of topic familiarity, he nonetheless spent a great deal of his time in pre-writing activity in Situation 2 (43 per cent, down from 48 per cent in Situation 1). Therefore, there was no reason to remove data for Kei from the correlation calculation.
Table 22: Proportion of Time Spent in Pre-Writing, Inscribing, and Post-Drafting Activity (Expressed as Percentage of Total Time)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1</th>
<th></th>
<th>Situation 2</th>
<th></th>
<th>Variation S2/S1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Inscribing</td>
<td>Post</td>
<td>Pre</td>
<td>Inscribing</td>
</tr>
<tr>
<td>Frank</td>
<td>7</td>
<td>46</td>
<td>46</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>Kei</td>
<td>48</td>
<td>50</td>
<td>2</td>
<td>43</td>
<td>54</td>
</tr>
<tr>
<td>Wang</td>
<td>13</td>
<td>39</td>
<td>49</td>
<td>11</td>
<td>31</td>
</tr>
<tr>
<td>Jolanta</td>
<td>17</td>
<td>81</td>
<td>2</td>
<td>18</td>
<td>80</td>
</tr>
<tr>
<td>Liba</td>
<td>19</td>
<td>79</td>
<td>2</td>
<td>3</td>
<td>82</td>
</tr>
<tr>
<td>Shiro</td>
<td>11</td>
<td>66</td>
<td>23</td>
<td>16</td>
<td>62</td>
</tr>
</tbody>
</table>

value for \( p < .01 \) is \(.943\). Clearly, these writers allocated their time to the three activities in similar ways in the two situations.

C. Anxiety and Inscribing Time

As indicated in Table 22, Wang, Frank, and Kei, the High Anxious subjects, devoted a smaller proportion of their time to inscribing in both situations than the proportion allocated by the Low Anxious subjects. A Spearman rank correlation of .84 on these two measures indicates a statistically significant relation (where the critical value for \( p < .05 \) is .83). Furthermore, two of the High Anxious subjects, Wang and Frank, showed the greatest decreases in proportion of time spent inscribing in the Situation
These two writers also ranked highest for the portion of their time spent in post-drafting activity in both situations, with increases in the examination situation of nine per cent each. Could it be that these writers, who spent proportionately less time inscribing and more time in post-drafting activity did so because of increases in their anxiety? Another explanation is that Frank and Wang were the subjects generally most proficient in English (as indicated by their TOEFL scores). Perhaps their general proficiency enabled them to generate text at a faster rate, providing them with more time for other activities.

VI. PROCESS TRACING

As described in Chapter 3, pauses by the writers during a sample of approximately 100 words of their inscribing in each situation were counted, measured, and classified according to length and location. In addition, alterations of the extant text were also identified and classified.

\(^2\)Perhaps for the third High Anxious writer, Kei, who showed the greatest increase in inscribing time at four per cent in Situation 2, this increase can be explained in the doubling of his word count because of topic familiarity. Liba, whose word count in Situation 2 was 60 per cent greater than in Situation 1, showed the second highest increase in inscribing proportion at three per cent. Perhaps the ease of topic (which she said accounted for her lack of pre-writing in Situation 2) accounted for this increase.
A. Analysis of Pauses in the Inscribing Samples

Pause Frequencies

For length, pauses were classified into three groups: those between 10 and 29 seconds long, those from 30 to 59 seconds long, and those of 60 seconds or greater in length. Frequencies of pauses of the three durations occurring in the inscribing samples are presented in Table 23.

To facilitate comparisons of pausing behaviours for the writers in the two situations, percentages were calculated for these data. The ratios of pauses of the various lengths to the total number of pauses for each writer in the two situations are presented in Table 24.

In the samples examined, frequencies of pauses of the three types varied from Situation 1 to Situation 2. As Table 23 shows, the average number of pauses 10-29 seconds long decreased by seven per cent (from 9.33 to 8.67) while the mean numbers of mid-length pauses and pauses greater than 60 seconds long increased by 15 and 32 per cent respectively (from 3.33 to 3.83 and from 3.17 to 4.17).

In the examination situation, longer pauses were more in evidence in the inscribing samples. Only for Liba, writing on a topic with which she was more at ease than with the one she chose in Situation 1, did the mid-length pauses and those greater than 60 seconds long decrease in frequency in the examination. With the exception, perhaps, of Liba, these increases in pauses of
Table 23: Frequencies of Pauses

| Subject | Situation 1 |         |         | | Situation 2 |         |         |         |
|---------|-------------|---------|---------| |-------------|---------|---------|---------|
|         | 10-29* | 30-59 | 60+ | | 10-29 | 30-59 | 60+ |
| Frank  | 5     | 2     | 1   | | 9     | 3     | 2   |
| Kei    | 8     | 4     | 1   | | 6     | 0     | 5   |
| Wang   | 9     | 2     | 1   | | 7     | 6     | 1   |
| Jolanta| 13    | 3     | 7   | | 7     | 7     | 11  |
| Liba   | 10    | 5     | 6   | | 13    | 4     | 2   |
| Shiro  | 11    | 4     | 3   | | 10    | 3     | 4   |

*seconds

Table 24: Proportions of Pauses (Expressed as Percentages of Total)

| Subject | Situation 1 |         |         | | Situation 2 |         |         |         |
|---------|-------------|---------|---------| |-------------|---------|---------|---------|
|         | 10-29 | 30-59 | 60+ | | 10-29 | 30-59 | 60+ |
| Frank  | 63    | 25    | 13  | | 64    | 21    | 14  |
| Kei    | 62    | 31    | 8   | | 55    | 0     | 45  |
| Wang   | 75    | 17    | 8   | | 50    | 43    | 7   |
| Jolanta| 57    | 13    | 30  | | 28    | 28    | 44  |
| Liba   | 48    | 24    | 29  | | 68    | 21    | 11  |
| Shiro  | 61    | 22    | 17  | | 59    | 18    | 24  |
longer duration may indicate that these writers, a group generally accustomed to failure when writing a composition examination, were negatively affected by the situation; that is, their ability to commit language which they had generated to paper may have been curtailed, resulting in pauses of greater duration.

Considerable variation between the two situations in frequencies of pauses of the three durations was evident for four of the subjects, Kei, Wang, Jolanta, and Liba. Samples for the other two, Frank and Shiro, exhibited little variation between the two situations. Although the generalizability of these data is limited by the low number of pauses in certain cases (Jolanta and Wang, for example), it is of interest that the two writers who exhibited the least variation, Frank and Shiro, are the two whose Situation 2 texts were assessed to be of higher quality than their Situation 1 texts. This may suggest that variations in pausing behaviour was related to reduction in text quality.

No relation is evident between variations in pause frequencies for the High Anxious writers (Frank, Wang, and Kei) compared with those for the Low Anxious writers. Two observations of interest are that for Kei, writing on a familiar topic in Situation 2, the sample revealed a greater frequency of pauses more than 60 seconds in length, and for Liba, writing on a Situation 2 topic which she felt was easier, the greatest variation in frequency was in pauses ranging from 10 to 29 seconds long. Perhaps these two writers have very different ways of generating text when writing on relatively easy topics; that is, perhaps Kei, writing on a topic of familiar content, de-
liberates at length over language concerns, while Liba, who knew from the outset what she would write, paused more often to deal with problems which were quickly solved. On the other hand, perhaps the increase in pauses of more than 60 seconds for Kei, a High Anxious writer, was a function of an increase in anxiety toward the examination. Or perhaps Kei's lengthy pauses resulted from his attempting to recall language structures he had used when writing on the topic previously.

Pausing Durations and Inscribing

As described in Chapter 3, mean lengths of all pauses greater that 10 seconds long which occurred in the inscribing samples were calculated. The total pause time was deducted from the sampled inscribing time to obtain a figure reflecting the proportion of time spent in pauses of greater than 10 seconds in length. An inscribing rate was then calculated to reflect the speed at which the writer inscribed text in the two situations. These data for the two situations are presented in Table 25.

Observed collectively, these writers exhibited increases on all of these measures in the examination situation for the inscribing samples examined. Means for pause length, the proportion of time spent in pauses, and inscribing rate all increased noticeably.

For individuals, however, these variations were mixed. For

---

3 This conjecture will be examined further in view of the data for pause locations.
Table 25: **Mean Pause Lengths, Pausing Proportion, and Inscribing Rates**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1</th>
<th></th>
<th>Situation 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean* Pause Length</td>
<td>Time Pausing (%)</td>
<td>Inscribing Rate**</td>
<td>Mean Pause Length</td>
</tr>
<tr>
<td>Frank</td>
<td>34.13</td>
<td>52</td>
<td>.416</td>
<td>31.71</td>
</tr>
<tr>
<td>Kei</td>
<td>28.92</td>
<td>37</td>
<td>.189</td>
<td>45.82</td>
</tr>
<tr>
<td>Wang</td>
<td>25.17</td>
<td>39</td>
<td>.259</td>
<td>32.93</td>
</tr>
<tr>
<td>Jolanta</td>
<td>48.52</td>
<td>80</td>
<td>.388</td>
<td>74.72</td>
</tr>
<tr>
<td>Liba</td>
<td>71.24</td>
<td>78</td>
<td>.228</td>
<td>37.89</td>
</tr>
<tr>
<td>Shiro</td>
<td>32.44</td>
<td>56</td>
<td>.206</td>
<td>49.00</td>
</tr>
</tbody>
</table>

* in seconds
** words per second

Means: 40.07 57 0.281 45.35 65.83 0.349

two writers, Frank and Liba, mean pause length for the inscribing sample decreased in Situation 2 examination. For the others, mean pause length increased. For four writers, the proportion of the total time in the inscribing sample spent in pauses of greater than 10 seconds increased, while for Liba, it decreased and for Jolanta remained the same. All subjects but Jolanta wrote at a considerably faster rate during the Situation 2 examination inscribing sample than they did in the non-test Situation 1. With the exception of Jolanta, perhaps, this group of writers, accustomed to failure when writing a composition examination, was inscribing at a faster rate because of the heightened pressure of the examination.
Table 26: Variations in Mean Pause Lengths and Inscribing Rates From Situation 1 to Situation 2 (Expressed as Percentages)*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean Pause Length Variation</th>
<th>Time Pausing Variation</th>
<th>Inscribing Rate Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>-7</td>
<td>+38</td>
<td>+63</td>
</tr>
<tr>
<td>Kei</td>
<td>+58</td>
<td>+38</td>
<td>+19</td>
</tr>
<tr>
<td>Wang</td>
<td>+31</td>
<td>+38</td>
<td>+37</td>
</tr>
<tr>
<td>Jolanta</td>
<td>+54</td>
<td>0</td>
<td>-35</td>
</tr>
<tr>
<td>Liba</td>
<td>-47</td>
<td>-12</td>
<td>+40</td>
</tr>
<tr>
<td>Shiro</td>
<td>+51</td>
<td>+23</td>
<td>+29</td>
</tr>
</tbody>
</table>

* Data Source: Table 25

Table 26 presents these variations reported in Table 25 as percentages.

To determine if these variations related to changes in state anxiety level Spearman rank correlations were calculated comparing ranks on these three variations with changes in anxiety level from Situation 1 to Situation 2 (reported in Table 12). On the comparison between anxiety level increase and the variation in proportion of time pausing a statistically significant correlation was indicated (rho = .89 where the critical value for p < .05 is .83). For these writers in the writing time sampled from these two situations, increase in anxiety level was accompanied by an increase in the proportion of time spent in pauses exceeding 10 seconds in length.

Likewise, relationships are suggested between increase in
anxiety and variations in both mean pause length and inscribing rate. Spearman rank comparisons on these measures gave moderate correlations of -.66 and .49 respectively. While these are not statistically significant, an inverse relationship is suggested between increase in anxiety and variation in mean pause length. However, because of the extreme scores for Frank, for whom anxiety increased the most but whose mean pause length varied least, this apparent correlation must be considered cautiously.

The moderate relationship suggested between anxiety increase and inscribing rate \( \rho = .49 \) may be regarded with less caution; that is, because no extremes are apparent in the rankings, the suggestion that inscribing rate for these writers increased as anxiety increased may have been tenable had the number of subjects been larger.

To further explore this question of the degree to which High Anxious writers may have varied on these measures in comparison to the Low Anxious group, z-scores were calculated on the variation factors for mean pause length, the proportion of time spent pausing, and inscribing rates. Table 27 presents the resulting data.

Of the six writers, two of the High Anxious group, Frank and Wang, with negative z-scores of 1.79 and 0.54 respectively, exhibited less change in their mean pause lengths than the others. Frank's mean pause length decreased for the examination, while Wang's increased. The third High Anxious writer, Kei, with a z-score of +0.87 and an increase in mean pause length of 58 per
cent in the examination, exhibited the greatest change of all six writers¹.

Variations in inscribing rate appear to have had little relationship to anxiety level. Frank, the most anxious writer, increased his rate by 63 per cent for a z-score of +1.76, while Kei, another anxious writer, increased his by only 24 per cent, even though he produced a Situation 2 paper of twice as many words as his non-test paper. The third anxious writer, Wang, with a z-score of -0.01, increased his inscribing rate in the

Table 27: Variations in Mean Pause Lengths and Inscribing Rates From Situation 1 to Situation 2 (Expressed as z-Scores)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mean Pause Length</th>
<th>z</th>
<th>Mean Pausing Time (% )</th>
<th>z</th>
<th>Means of Inscribing Rate</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>7</td>
<td>-1.79</td>
<td>38</td>
<td>+0.82</td>
<td>63</td>
<td>+1.76</td>
</tr>
<tr>
<td>Kei</td>
<td>58</td>
<td>+0.87</td>
<td>38</td>
<td>+0.82</td>
<td>19</td>
<td>-1.24</td>
</tr>
<tr>
<td>Wang</td>
<td>31</td>
<td>-0.54</td>
<td>38</td>
<td>+0.82</td>
<td>37</td>
<td>-0.01</td>
</tr>
<tr>
<td>Jolanta</td>
<td>54</td>
<td>+0.66</td>
<td>0</td>
<td>-1.54</td>
<td>35</td>
<td>-0.15</td>
</tr>
<tr>
<td>Liba</td>
<td>47</td>
<td>+0.29</td>
<td>12</td>
<td>-0.79</td>
<td>40</td>
<td>+0.19</td>
</tr>
<tr>
<td>Shiro</td>
<td>51</td>
<td>+0.50</td>
<td>23</td>
<td>-0.11</td>
<td>29</td>
<td>-0.56</td>
</tr>
</tbody>
</table>

Means: 41.33  24.83  37.17  
S.D.: 19.23  16.15  14.68

¹Perhaps this can be explained in the nature of the Situation 2 task for Kei. Because he was writing on a familiar topic, for which he could devote greater attention to linguistic matters than to matters of content generation, perhaps greater attention to linguistic concerns resulted in pauses for longer periods.
examination, but only to an average extent.

Inscribing rate variation was likewise mixed for the Low Anxious writers. Liba's rate increased² while rates for Shiro and Jolanta decreased.

In the proportion of time spent pausing, a relationship appears to exist between anxiety level and variation from the first situation to the second. Jolanta, a Low Anxious writer, spent the same proportion of her time in pauses in Situation 2 as she had in Situation 1. Liba, another Low Anxious writer, spent a considerably smaller proportion of her time in pauses during the examination than she had in Situation 1. Shiro increased his pausing proportion by 23 per cent. The z-scores for this variation for these Low Anxious group were -1.54, -0.79, and -0.11 respectively. The High Anxious writers, on the other hand, all increased the proportion of time spent in pauses by 38 per cent, resulting in z-scores of +0.82. This finding supports the statistically significant rank correlation on these two measures (rho = .89). For these writers in the inscribing time sampled from these two situations, increase in anxiety level was accompanied by an increase in the proportion of time spent in pauses exceeding 10 seconds in length.

²Perhaps this is related to the 60-per cent greater word count in Liba's Situation 2 examination.
Pause Locations

As described in Chapter 3, locations of pauses during the inscribing sample were also of interest in examining to what extent the writer may have allocated time attending to formulation of a structured unit of text rather to lower level activities such as lexical searches. Pauses in four locations, between paragraphs, between sentences, before clauses or phrases, and within clauses or phrases (as defined in Chapter 3) were identified in the inscribing samples. These pauses for all six subjects writing in the non-test Situation 1 and the examination Situation 2 are presented in Table 28.

The means for the four types of pauses indicate that the three types reflecting hesitations in inscribing at the beginnings of syntactic units (Types 1, 2, and 3) all increased for the examination inscribing samples while Type 4 pauses, those within clauses or phrases, decreased for the examination task.

Table 29 presents these variations in ratio of Type 4 pauses to the total number of pauses for each writer expressed as a percentage variation from Situation 1 to Situation 2.

For three writers, Kei, Liba, and Wang, the number of pauses occurring within phrases or clauses in relation to pauses occurring between paragraphs, sentences, and between phrases or clauses was considerably smaller in the examination situation than in the non-test Situation 1. For two writers, Jolanta and Shiro, the variation was only slight. For Frank, the ratio increased by 30 per cent.
Table 28: **Pause Locations During Inscribing**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Pause Location Types</th>
<th>Situation 1</th>
<th>Situation 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>3 4 0 1</td>
<td>1 6 1 6</td>
<td></td>
</tr>
<tr>
<td>Kei</td>
<td>0 2 3 8</td>
<td>3 2 7 2</td>
<td></td>
</tr>
<tr>
<td>Wang</td>
<td>2 0 7 3</td>
<td>3 2 7 2</td>
<td></td>
</tr>
<tr>
<td>Jolanta</td>
<td>1 5 10 7</td>
<td>1 4 12 8</td>
<td></td>
</tr>
<tr>
<td>Liba</td>
<td>1 5 8 7</td>
<td>1 3 10 5</td>
<td></td>
</tr>
<tr>
<td>Shiro</td>
<td>1 4 8 5</td>
<td>2 6 4 5</td>
<td></td>
</tr>
</tbody>
</table>

Means: 1.33 3.33 6.00 5.17

Type 1: Between paragraphs
Type 2: Between sentences
Type 3: Before clauses or phrases
Type 4: Within clauses or phrases

Table 29: **Variations in Type 4 Pause Ratios During Inscribing**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1</th>
<th>Situation 2</th>
<th>Variation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank</td>
<td>.13</td>
<td>.43</td>
<td>+.30</td>
</tr>
<tr>
<td>Kei</td>
<td>.62</td>
<td>.14</td>
<td>-.48</td>
</tr>
<tr>
<td>Wang</td>
<td>.25</td>
<td>.14</td>
<td>-.11</td>
</tr>
<tr>
<td>Jolanta</td>
<td>.30</td>
<td>.32</td>
<td>+.02</td>
</tr>
<tr>
<td>Liba</td>
<td>.33</td>
<td>.26</td>
<td>-.07</td>
</tr>
<tr>
<td>Shiro</td>
<td>.28</td>
<td>.29</td>
<td>+.01</td>
</tr>
</tbody>
</table>
The three subjects exhibiting the greatest variation in this ratio, albeit in both positive and negative directions, were Frank, Kei, and Wang, the High Anxious group. A Spearman correlation of ranks on increase in anxiety (reported in Table 12) and these variations in ratio indicated there may be a fairly strong relationship (\( \rho = .77 \), where the critical value for \( p < .05 \) is .83). While this is not statistically significant, it must be noted that the subjects exhibiting the greatest increase in anxiety between the two situations also showed the greatest variation (30, 48, and 11 per cent respectively) in the locations of their pauses in the inscribing samples examined. Perhaps increases in anxiety regarding the examination resulted in hesitations in inscribing at different levels of text generation for these writers to a greater extent than for the Low Anxious group. For instance, the greater anxiety reported by Kei and Wang may have led them to ponder more at the beginnings of syntactic units during the examination than they had in the non-test situation. Perhaps increased anxiety had the reverse effect on Frank, causing him to rush from one syntactic unit into the next.

Another conjecture arises related to the variation in pause lengths discussed previously, with particular reference to Kei and Liba. As reported in Table 24, pauses of greater than 60 seconds' duration increased most in frequency for Kei, writing on a familiar Situation 2 topic. For Liba, writing on a Situation 2 topic...

---

Removing Frank, whose variation in Type 4 pause ratio was in an opposite direction from the ratios of the other two High Anxious subjects, resulted in a Spearman correlation coefficient of .80 which approaches statistical significance (where the critical value for \( p < .05 \) is .829).
topic which drew on her personal experience, pauses of less than 30 seconds in length increased most in frequency. It was previously suggested (pp. 90, 91) that these variations might be indicative of differences in the ways these writers approach less difficult writing tasks.

The differences in their pause locations for the Situation 2 inscribing samples for Kei and Liba may indicate this as well. Perhaps Kei ponders more before syntactic units, working out the syntactic structure (or trying to recall structural units he had generated while writing on this topic previously), while Liba, who knew from the outset what she would write, paused more often within syntactic units to deal with low-level grammatical and lexical problems which were quickly solved. That Kei's pauses of greater than 60 seconds' duration increased considerably in the examination situation, while the greatest increase for Liba was in pauses of less than 30 seconds in length supports these conjectures.

B. Alterations During Forward Drafting (Inscribing)

In addition to pauses which occurred during the sampled inscribing segments, also of interest were the frequencies and types of alterations which occurred for each writer and the comparison of these for the non-test and examination situations. As described in Chapter 3, all changes made by writers to extant text were identified through close examination of the video record and classified according to five types. Occurrences of
Table 30: Alterations During Inscribing

<table>
<thead>
<tr>
<th>Subject</th>
<th>Alteration Types</th>
<th>Situation 1</th>
<th>Alteration Types</th>
<th>Situation 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Frank</td>
<td>7</td>
<td>2</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Kei</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Wang</td>
<td>7</td>
<td>3</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Jolanta</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Liba</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Shiro</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

Totals: 21 13 44 27 9 34 17 37 32 6

Means: 3.5 2.2 7.3 4.5 1.5 5.7 2.8 6.2 5.3 1.0

Type C: Cosmetic
Type 1: Lexical
Type 2: Mechanical
Type 3: Discourse
Type 4: Conceptual

these types of alterations for the six writers in both situations are presented in Table 30.

As a group, in the inscribing samples examined, these writers exhibited a greater concern for matters of a lexical nature (Type 1 alterations) and matters of a discourse nature (Type 3 alterations) in the examination Situation 2 than in the non-test Situation 1. Furthermore, those with tendencies to perform cosmetic alterations (reformation of characters) tended to do more of this in the examination situation. Perhaps this type of behaviour is related to the pressure of the examination.

Of particular interest in this regard is Wang, one of the
High Anxious subjects, whose cosmetic alterations more than doubled in Situation 2 even though he was inscribing a rough draft. Noteworthy also is that, of the total 55 cosmetic alterations observed in the 12 inscribing samples, 43 were by writers in the High Anxious group, Frank, Kei, and Wang. Of those remaining, nine cosmetic alterations were made by Jolanta, the least anxious writer, and three by Shiro. For the entire group, cosmetic alterations increased by 62 per cent, from 21 to 34, in the examination situation. These data strongly suggest that these cosmetic alteration behaviours are related to anxiety.

Of greater interest than cosmetic alterations were alterations reflecting attention to different levels of textual generation. As described in Chapter 3, Lexical, and Mechanical alterations (Types 1 and 2) were classified further as Low Level alterations. Discourse and Conceptual changes were classified as High Level alterations. Occurrences in the inscribing samples of alterations thus classified and the ratios of High Level alterations to total alterations are presented in Table 31.

For the entire group, the total number of alterations (93 for Situation 1 and 92 for Situation 2 with means of 15.5 and 15.3 respectively) varied little from the non-test to the examination situation. Nor did the total numbers of Low Level and High Level alterations vary greatly, with Low Level alterations totalling 57 and 54 and High Level alterations totalling 36

4In both situations, Wang wrote a rough draft which he labeled as such and wrote a final copy during his post-inscribing activities. The inscribing samples selected for Wang were both from his rough drafts.
Table 31: **High and Low Level Alterations During Inscribing**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1 Alteration Types</th>
<th>Situation 2 Alteration Types</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Frank</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Kei</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Wang</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Jolanta</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Liba</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Shiro</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Totals:</td>
<td>57</td>
<td>36</td>
</tr>
<tr>
<td>Means:</td>
<td>9.5</td>
<td>6</td>
</tr>
<tr>
<td>S.D.</td>
<td>5.0</td>
<td>3.1</td>
</tr>
</tbody>
</table>

**High:** Discourse and Conceptual Alterations  
**Low:** Lexical and Mechanical Alterations

and 38 in Situation 1 and Situation 2 respectively.

The High Anxious writers, Frank, Kei, and Wang performed 68 per cent of the 93 alterations in the Situation 1 inscribing sample and 65 per cent of the alterations in the Situation 2 samples. A Spearman rank comparison of these data indicated a strong relation between these totals (rho = .99 where the critical value for p < .01 is .943): Writers who performed a great number of alterations in the non-test situation, performed similarly in the examination and those who altered little extant text in one instance, performed few alterations in the second.

To determine how individual writers, particularly the High Anxious writers, compared with others, z-scores and percentage
changes were calculated for these data. These z-scores and variations for the individual writers are presented in Table 32.

In both the non-test Situation 1 and the examination Situation 2, z-scores for low-level alterations in the inscribing samples for the High Anxious writers, Frank, Kei, and Wang indicate these writers attended to lexical and mechanical matters of text generation to a greater extent than did the Low Anxious subjects.

Furthermore, two of these High Anxious writers, Frank and Wang, with z-scores of +1.34 and +1.10 respectively, appear to have devoted more attention to high-level concerns during the examination than did the others. These same writers also exhibited considerable increases, of 13 and 18 per cent respectively, in attention to the high-level concerns of discourse and
conceptual alterations during the examination.

In percentage terms, Jolanta, the least anxious writer, performed 23 per cent more high-level alterations in the examination situation than she did in Situation 1, but her alterations were so few in number (five and seven in Situations 1 and 2 respectively) that this increase must be interpreted cautiously. If, for this reason, this ratio variation is removed for Jolanta, these data for High Anxious writers Frank and Wang represent the greatest the increase in this variation, while the inscribing samples for the third High Anxious writer, Kei, reveal the greatest decrease (24 per cent). A relationship is suggested between anxiety and variation on this measure, albeit variation in different directions. Perhaps for Frank and Wang, examination pressure resulted in their attending more to high-level concerns than they had in the non-test situation.

Perhaps the apparent decrease in this concern for Kei can be explained by this writer's familiarity with the Situation 2 topic, in which case his grasp of the content and organization may have enabled him to devote a greater amount of his attention to matters of a lexical and mechanical nature.

A comparison of ranks for the degree of variation in these z-scores (with scores for Jolanta removed) with ranks on the increase in state anxiety levels between the two situations resulted in a Spearman correlation coefficient of .60. While this is not statistically significant (with n = 5, where the critical value for p < .05 is .900), that the three High Anxious subjects varied most on this measure is of interest.
Generative Alterations

How did these writers differ in the generative aspects of alterations from the non-test to the examination situation, that is, were differences observed in the degree to which their alterations during the inscribing samples were necessary to enable them to continue forward inscribing? Table 33 presents the frequencies of generative alterations and compares them to the totals in the two situations.

As a group, these writers showed a nine-per cent decrease in the ratio of generative alterations to the total from Situation 1 to Situation 2. That is, fewer of their alterations were necessary to continue the forward inscribing in the examination situation. A Spearman rank correlation (rho = .77 where the

Table 33: Generative Alterations

<table>
<thead>
<tr>
<th>Subject</th>
<th>Situation 1</th>
<th></th>
<th></th>
<th>Situation 2</th>
<th></th>
<th></th>
<th>Variation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Generative</td>
<td>Total</td>
<td>%</td>
<td>Generative</td>
<td>Total</td>
<td>%</td>
<td>(%)</td>
</tr>
<tr>
<td>Frank</td>
<td>10</td>
<td>26</td>
<td>.38</td>
<td>10</td>
<td>25</td>
<td>.40</td>
<td>+.02</td>
</tr>
<tr>
<td>Kei</td>
<td>14</td>
<td>18</td>
<td>.78</td>
<td>10</td>
<td>13</td>
<td>.77</td>
<td>-.01</td>
</tr>
<tr>
<td>Wang</td>
<td>6</td>
<td>19</td>
<td>.32</td>
<td>3</td>
<td>22</td>
<td>.14</td>
<td>-.18</td>
</tr>
<tr>
<td>Jolanta</td>
<td>2</td>
<td>5</td>
<td>.40</td>
<td>2</td>
<td>7</td>
<td>.29</td>
<td>-.11</td>
</tr>
<tr>
<td>Liba</td>
<td>2</td>
<td>9</td>
<td>.22</td>
<td>3</td>
<td>12</td>
<td>.25</td>
<td>+.03</td>
</tr>
<tr>
<td>Shiro</td>
<td>8</td>
<td>16</td>
<td>.50</td>
<td>5</td>
<td>13</td>
<td>.38</td>
<td>-.12</td>
</tr>
<tr>
<td>Totals:</td>
<td>42</td>
<td>93</td>
<td>.45</td>
<td>33</td>
<td>92</td>
<td>.36</td>
<td>-.09</td>
</tr>
<tr>
<td>Means:</td>
<td>7.00</td>
<td>.43</td>
<td></td>
<td>5.5</td>
<td>.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
critical value for p < .05 is .83) between ratios for the two situations may indicate a moderately strong relationship between the ratios for the two situations.

For individuals, the variations were mixed. Wang, one of the most anxious writers, showed the greatest decrease of all at 18 per cent, while Shiro and Jolanta, the least anxious writers also had high decreases (12 and 11 per cent respectively). Variations for Kei and Frank, the other High Anxious writers, and Liba were only slight at one, two and three per cent respectively. A comparison of ranks on the ratio variation and anxiety increases indicated a slight inverse relation (rho = -.14) may be present. If there is a relation between anxiety increase and variation in generative alterations, it would appear to be particular to certain of the writers, namely Wang, Jolanta, and Shiro.

Improving Alterations

An even stronger variation for individuals was evident when contrasts between the ratios of total alterations to those resulting in textual improvement were observed. As Table 34 indicates, this variation for the entire group was only slight at three per cent, decreasing from 65 per cent in the non-test situation to 63 per cent in the examination. That is, for the group, slightly fewer alterations resulted in improvements in the Situation 2 inscribing samples than in the Situation 1 samples.
Table 34: Improving Alterations

<table>
<thead>
<tr>
<th>Subject</th>
<th>Improving</th>
<th>Total</th>
<th>%</th>
<th>Improving</th>
<th>Total</th>
<th>%</th>
<th>Variation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>18</td>
<td>26</td>
<td>.69</td>
<td>15</td>
<td>25</td>
<td>.60</td>
<td>-.09</td>
</tr>
<tr>
<td>Kei</td>
<td>6</td>
<td>18</td>
<td>.33</td>
<td>6</td>
<td>13</td>
<td>.46</td>
<td>+.13</td>
</tr>
<tr>
<td>Wang</td>
<td>14</td>
<td>19</td>
<td>.74</td>
<td>19</td>
<td>22</td>
<td>.86</td>
<td>+.12</td>
</tr>
<tr>
<td>Jolanta</td>
<td>3</td>
<td>5</td>
<td>.60</td>
<td>4</td>
<td>6</td>
<td>.67</td>
<td>+.07</td>
</tr>
<tr>
<td>Liba</td>
<td>7</td>
<td>9</td>
<td>.78</td>
<td>7</td>
<td>12</td>
<td>.58</td>
<td>-.20</td>
</tr>
<tr>
<td>Shiro</td>
<td>12</td>
<td>16</td>
<td>.75</td>
<td>6</td>
<td>13</td>
<td>.46</td>
<td>-.29</td>
</tr>
<tr>
<td>Totals:</td>
<td>60</td>
<td>93</td>
<td>.65</td>
<td>57</td>
<td>92</td>
<td>.62</td>
<td>-.03</td>
</tr>
<tr>
<td>Means:</td>
<td>10.0</td>
<td></td>
<td></td>
<td>9.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A Spearman rank correlation of -.01 for these data (where the critical value for $p < .05$ is .83) shows little relation for individuals on this measure from the first situation to the second. The subjects for whom a greater portion of alterations resulted in textual improvements were Kei and Wang, two of the High Anxious writers, while the greatest decreases in this ratio were for Liba and Shiro, two of the Low Anxious group. For Frank, the third High Anxious writer, the portion of alterations resulting in textual improvements decreased by nine per cent in the examination, and for Jolanta, the least anxious writer, this increased by seven per cent. A Spearman correlation of ranks

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Because of the small number of alterations performed by Jolanta (five and six in the respective situations), this ratio must be interpreted with caution.
for variation in improving alterations and increase in anxiety level indicated a low relation of .33. An increase in anxiety appears to have had little relation to the ability of these writers to make changes to their extant text which improved its quality.

VII. ENGLISH PROFICIENCY AND OTHER MEASURES

To examine the possibility that proficiency in English was related to ways in which these six writers performed in the two situations under study, the TOEFL scores for the subjects were compared to measures employed in the study.

For ease of comparison, rankings by the six writers on a number of the various measures employed are presented in Tables 35 and 36. Table 35 presents rankings for the non-test Situation 1. Table 36 presents rankings on variations between the two situations. In each case, ranks on TOEFL scores are presented for ease of comparing this measure of general English proficiency. Coefficients representing Spearman rank correlations between ranks on TOEFL scores and the various measures are also presented.

A. English Proficiency

To review the English proficiency description of the six writers (presented in Chapter 3): The group represented a wide range of TOEFL scores from Shiro's 523 to Wang's 630. Two of the
subjects, Shiro and Liba, had scores below the usual university admission requirement of 550 because of special admission by their graduate departments. Column A in Tables 35 and 36 presents rankings of the TOEFL scores.

B. Anxiety

As Table 35 indicates, a moderate relationship ($\rho = .49$) is suggested between ranks on TOEFL scores and level of state anxiety in the non-test Situation 1. It would appear that subjects scoring high for anxiety tended to be more proficient on the TOEFL measure.

The relation between the increase in state anxiety in the examination (Table 36, column B) and proficiency appears stronger ($\rho = .66$). These data reveal a coincidence of high scores for English proficiency and increases in state anxiety: The three High Anxious writers were those with the highest TOEFL scores. Perhaps they were more anxious because of the confidence afforded by their high TOEFL scores; that is, they may have felt at greater risk than did the others who had lower TOEFL scores.

C. Text Quality

Table 35 indicates a slight relation may be evident between proficiency and performance in the non-test Situation 1 as reflected in the scores for text quality ($\rho = .43$). However, when Kei's scores, which ranked two and six, were removed, the
Table 35: Rankings by Subjects on Various Measures in Situation 1

<table>
<thead>
<tr>
<th>Measure*</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Kei</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Wang</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Jolanta</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Liba</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Shiro</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Rho</td>
<td>.49</td>
<td>.43</td>
<td>.66</td>
<td>-.71</td>
<td>-.71</td>
<td>-.60</td>
<td>-.14</td>
<td>-.03</td>
<td>-.54</td>
<td></td>
</tr>
</tbody>
</table>

* Measures and Data Sources:

A. TOEFL Scores (Table 4)
B. State Anxiety (Spielberger Inventory, Table 12)
C. Text Quality (Table 15)
D. Syntactic Complexity (Increase in Mean T-Unit Length (Table 17)
E. Proportion of Total Time Allocated to Inscribing (Table 22)
F. Proportion of Inscribing Sample in Pauses Exceeding 10 seconds (Tables 25 and 26)
G. Ratio of Pauses Within Phrases or Clauses to Total Pauses in Inscribing Sample (Table 29)
H. Ratio of Discourse and Conceptual Alterations to Total Alterations in Inscribing Sample (Tables 31 and 32)
I. Ratio of Generative Alterations to Total Alterations in Inscribing Sample (Table 33)
J. Ratio of Improving Alterations to Total Alterations in Inscribing Sample (Table 34)

correlation was perfect at 1.00. Text quality, as assessed by procedures employed in this study, appears to be related to proficiency as measured by the TOEFL. In contrast, the comparison of ranks on TOEFL with variation in text quality between the
Table 36: Rankings by Subjects for Variations on Measures From Situation 1 to Situation 2

<table>
<thead>
<tr>
<th>Measure:</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5.5</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Kei</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Wang</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>5.5</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Jolanta</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Liba</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Shiro</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Rho</td>
<td>.66</td>
<td>-.60</td>
<td>-.24</td>
<td>.71</td>
<td>.71</td>
<td>.77</td>
<td>.71</td>
<td>.26</td>
<td>.89</td>
<td></td>
</tr>
</tbody>
</table>

two situations, that is, the increase in quality of the examination text over the quality of the Situation 1 text, (Table 36, column C) suggests a moderate inverse relationship (rho = -.60). If a relation exists between these measures, one interpretation is that those writers with higher proficiency tended to produce poorer quality writing in the examination than they did in the non-test. A more plausible interpretation is that these writers, regardless of their higher proficiency, performed more poorly in the examination for some other reason.

C. Syntactic Complexity

Comparing ranks on the measure for syntactic complexity of texts produced in the non-test Situation 1 (Table 35, Column D) with TOEFL scores indicates a moderate relationship (rho = .66).
It appears that general English proficiency may be related to the complexity of the texts produced.

However, a comparison of ranks on the proficiency measure and the increase in mean T-unit length in the examination situation (rho = -.24) indicates a slight inverse relation. That is, writers with lower proficiency tended to write with more complexity in the examination than they did in the non-test situation. Conversely, although all of the writers increased their syntactic complexity in the examination, the more proficient subjects increased the complexity to a lesser degree.

E. Inscribing Time

A similar comparison between TOEFL scores and the portion of the total time used for inscribing activity in the non-test situation indicated a moderate inverse relation (rho = -.71). This suggests that the more proficient a writer was, the less time allocated to inscribing.

Comparing ranks of TOEFL scores with the variation in proportion of time used in the non-test situation with that used in the examination (Table 36, Column E) likewise indicated a moderate relation (rho = .71). It may be that higher general proficiency in English was related to variation on this measure; that is, that the more proficient subjects varied their use of time more than the less proficient subjects. It should be noted that Wang and Frank, two of the most proficient subjects, spent
less time inscribing and more time in post-draft activity than the others in both situations.

F. Pausing Time

Similar correlations were observed between ranks on TOEFL and the time spent pausing during the inscribing period sampled (Tables 35 and 36, Column F).

A fairly high inverse relationship (rho = -.71) is suggested by ranks on this measure in the non-test Situation 1. That is, the more proficient subjects appear to have spent less of their inscribing time in pauses greater than 10 seconds in length.

They also appear to have varied the proportion of their time spent pausing more greatly than the less proficient subjects between the non-test and examination situations (rho = .71). This might suggest a relationship between proficiency and variability on this measure, but that the more proficient subjects happened to be those for whom anxiety increased the most may provide a more plausible explanation.

G. Pause Locations

A comparison of TOEFL score ranks with ranks on the ratios of pauses within clauses or phrases to the total pauses in the non-test inscribing samples indicated a slight inverse relation (rho = -.14) may be evident.

Of greater interest, however, is the comparison of ranks for
proficiency and variability on this measure between the two situations (Table 36, Column G). While it is not statistically significant, the strong relationship suggested ($\rho = .77$) might indicate that pausing behaviours varied more between the situations for the more proficient subjects than for the less proficient subjects. Another explanation (perhaps a more plausible one) is that these variations were related to the increases in anxiety reported by the more proficient writers.

H. Alterations

Similar correlations were found for the ratios of high-level alterations to the total alterations of extant text in the inscribing samples (Tables 35 and 36, Column H).

While the coefficient for this ratio in the non-test situation ($\rho = -.14$) suggest little relationship to proficiency, the correlation of TOEFL score ranks with ranks for variation in these ratios suggests a fairly strong relationship ($\rho = .71$). As with the variation in locations of pauses between the two situations, the question suggested is: Did Frank, Kei, and Wang attend to different features of text generation in the two situations more than the other writers because they were more proficient? Or was it because they were more anxious?
I. Generative Alterations

Little relation (rho = -.03) appeared between ranks on the proficiency measure and ranks on the portion of alterations which were generative in nature in the Situation 1 inscribing samples reported in Table 35 (rho = -.03). An only slightly stronger relation may be suggested by the comparison of ranks for variation between the situations on this measure (rho = .26).

It appears that there is little, if any relationship between proficiency and these measures; that is, the tendency of a writer to perform alterations necessary to continue the forward inscribing may not be related to the writer's general proficiency. It should be noted, however, that for the entire group, fewer generative alterations were performed in the Situation 2 examination than in the non-test situation (as reported in Table 33).

J. Alterations Resulting in Improvements

Finally, TOEFL score ranks were compared with ranks for the proportions of total alterations in the non-test inscribing samples (Table 35, Column J) which resulted in textual improvements (rho = -.54). A moderate inverse relation is indicated, suggesting that more proficient writers tended to make fewer alterations which improved their texts. However, the occurrences on which these ratios are based (reported in Table 33) are so few in number in some cases, that these ratios must be interpreted with some caution.
A statistically significant correlation was found (rho = .89 where the critical value for p < .05 is .83) between ranks on TOEFL scores and ranks for the change in ratio of improving alterations from the non-test situation to the examination (Table 36, Column J). More proficient writers tended to be those who altered extant text more efficiently in Situation 2 than in Situation 1; those less proficient altered their text in the examination less efficiently than in the non-test.

VIII. SUMMARY OF FINDINGS

The primary findings of this study are summarized as follows:

1. The three writers regarded as High Anxious writers (because of their reports on trait and state anxiety instruments) happened to be the most generally proficient in English (as measured by the TOEFL).

2. Two High Anxious subjects produced examination essays of poorer quality than their non-test papers according to assessment procedures used.

3. According to assessment procedures used, quality of texts produced in the non-test and examination situations varied greatly (ranging from seven to 40 per cent).
4. All of the writers studied produced examination texts which were syntactically more complex than their non-test papers. In addition, the increase in complexity of their texts was proportionate to increases by the other five writers.

5. The writers studied allocated their time to pre-writing, inscribing, and post-drafting activities in similar ways in the two situations. Two of the subjects most generally proficient in English (as measured by the TOEFL), Wang and Frank, spent less time inscribing and more time in post-drafting activity than did the other subjects in both situations.

6. When they were not engaged in pauses greater than 10 seconds in length, all but one of the subjects (Jolanta) wrote at a considerably faster rate in the examination than they did in the non-test situation in the inscribing periods sampled.

7. Increase in anxiety level from the non-test situation to the examination situation was accompanied by an increase in the proportion of time spent in pauses greater than 10 seconds in length in the inscribing periods sampled.

8. Increase in anxiety level from the non-test situation to the examination situation was accompanied by variation in pause locations in the inscribing periods sampled; that is, ratios of pauses within syntactic units to those between syntactic
units varied more for the writers for whom state anxiety increased in the examination situation.

9. In the inscribing periods sampled, writers who altered extant text frequently in the non-test situation also did so in the examination. These writers were those generally more proficient in English (as measured by the TOEFL). They were also those for whom anxiety increased the most regarding the examination.

10. Textual alterations in the inscribing periods sampled, indicated writers who reported an increase in state anxiety regarding the examination attended to lexical and mechanical matters to a greater extent than did the Low Anxious writers.

11. Except in the case of one writer (Kei), the quality of texts generated by the writers in the non-test situation appeared to be related to general English proficiency (as measured by the TOEFL).

12. Two of the subjects (Wang and Frank) who were among the most proficient in English generally (as measured by the TOEFL) spent less time inscribing and more time in post-draft activity in both situations.
13. Little, if any, relation was apparent between general proficiency in English (as measured by the TOEFL) and a writer's tendency to perform alterations necessary to continue the forward inscribing. However, for the group studied, fewer of these generative alterations occurred in the examination than in the non-test situation.

14. Those subjects with greater general proficiency in English (as measured by the TOEFL) altered extant text more efficiently in the examination than they did in the non-test situation, and the less proficient subjects altered their text in the examination less efficiently.

In addition to the findings set out above, a number of other observations are of interest:

1. A relationship was apparent between a general tendency toward anxiety about tests in general (trait anxiety) and the increases in state anxiety reported by the subjects regarding to the examination situation. However the degree to which writers expressed apprehension about writing in English did not appear to be closely related to their reports regarding anxiety.

2. Writers who expressed preference for writing in English over writing in L1 were those who expressed lower degrees of
apprehension toward writing in English. They were also among those with the highest general proficiency (as measured by the TOEFL).

3. Differences in the ratio of high-level errors and other deficiencies to low level deficiencies in the two texts produced by each writer appeared to be unrelated to differences in text quality according to the assessment procedures used. These ratios were highly varied for the six writers and appeared to be unrelated to changes in anxiety level.

4. While syntactic complexity increased for all of the writers in the examination situation, for those who reported increases in anxiety, the syntactic complexity increased to a lesser degree than for the others. Furthermore, increases in syntactic complexity for two of the writers (Jolanta and Kei) were accompanied by decreases in text quality according to the assessment procedures used.

5. With the exception of one writer (Liba) longer pauses were more evident in the inscribing periods sampled from the examination situation than in those from the non-test situation.

6. In the inscribing periods sampled, writers who tended to perform cosmetic alterations (that is reform written characters) tended to do more of this in the examination
situation. The writers with these tendencies were those in
the High Anxious group.

7. The number of alterations to extant text performed by the
entire group in the inscribing periods sampled varied little
between the situations. Nor did the numbers of Low Level
and High Level alterations vary greatly.

8. From the non-test situation to the examination situation,
the High Anxious writers varied most in the ratio of High
Level alterations to Low Level alterations in the inscribing
periods sampled. Variations were in both directions; that
is, in the examination situation, Frank and Wang appear to
have attended more to High Level concerns while Kei attended
more to Low Level matters.

9. While for the entire group, in the inscribing periods
sampled, the ratio to the total of alterations necessary to
continue forward inscribing decreased by nine per cent for
the examination situation, this variation appears to have
been idiosyncratic. There appeared to be no relationship
between this measure and either anxiety increase or general
English proficiency (as measured by the TOEFL).

10. In the inscribing periods sampled, there appears to have
been little relation between state anxiety increase re-
11. The suggestion that writers with higher general proficiency in English (as measured by the TOEFL) produced poorer quality texts in the examination situation could more plausibly be explained by the evidence that these writers were also the ones for whom state anxiety increased the most in the examination.

12. While syntactic complexity increased for all of the writers in the examination situation, it appears to have increased to a lesser degree for those generally more proficient in English. These writers also reported greater anxiety in the examination situation than did the others.

13. While it appears that frequencies of pauses of different lengths varied more between the situations for the more proficient subjects, perhaps a more plausible explanation is that this variation was related to the increase in anxiety reported by these subjects.

14. Similarly, the greater variation in pause locations between the situations for the more proficient subjects than for the others may be related more to increase in anxiety than to English proficiency.
CHAPTER FIVE

CONCLUSIONS, DISCUSSION, AND IMPLICATIONS

The findings of this study stimulate considerable discussion regarding assessment and teaching practices - at least for ESL writers for whom the consistent production of quality English essay texts appears to be a problem. More broadly, though, discussion is prompted regarding the assessment and pedagogical practices which focus on the student's written text for composition instruction in both first and second languages. Furthermore, the procedures followed in this study urge examination of the research practices commonly used to trace the processes of subjects engaged in the act of text generation.

However, before turning to a general discussion of the findings of this study and the questions which they raise, a brief review is in order of the research questions posed at the outset and the extent to which they were addressed. The summaries enumerated below address the research questions posed in Chapter 1.

I. THE RESEARCH QUESTIONS

1. According to the criteria and procedures used to measure proficiency in English at the university attended by the subjects of this study, there were
considerable differences in the quality of text produced by these six subjects writing in a non-test situation and in an essay examination testing proficiency in written English. One subject obtained a failing score for a paper written in the non-test situation and a passing score in the examination. Another received a passing score for the non-test paper and a failing score in the examination.

2. There were observable differences among the subjects in the approaches to the writing tasks in the two situations. However, in the main, these writers tended to allocate similar proportions of their time to the planning, inscribing, and post-drafting activities of text generation in both the non-test and examination situations.

In the inscribing samples selected, the writers exhibited considerable variation in the frequencies of pauses of certain lengths from the non-test to the examination situation. This did not appear to be related to an increase in anxiety in the examination situation. In addition, considerable variation in duration and location of pauses occurred between the two situations as well as in the proportion of time spent pausing and in the speed of inscribing. The more anxious writers spent a greater proportion of the total
time pausing during the examination. The ratio of their pauses within phrases or clauses to other pauses also varied most greatly for the High Anxious writers.

Numbers of alterations of extant text performed by the six writers during the inscribing samples varied little from the non-test to the examination situation. Nor did the ratios of alterations of a discourse and conceptual nature to those of a lexical and mechanical nature.

3. On a number of measures, apparent relationships were evident between changes in state anxiety and variations in behaviours from the non-test situation to the examination. Among these were

a. Variation in syntactic complexity: While for all subjects, the examination paper was syntactically more complex than the non-test paper, for the High Anxious group, the complexity increased the least;

b. Variation in the portion of time spent inscribing: The greatest decreases were by two of the High Anxious group, and the greatest increase was for the third High Anxious subject;

c. Variation in the portion of inscribing time spent in pauses: The proportion of time spent in pauses
increased most in the examination situation for the three High Anxious writers;

d. Variation in the locations of pauses: Between the non-test and the examination situations, the ratio of pauses within clauses or phrases to other pauses varied most greatly for the High Anxious writers;

e. Variation in types of alterations performed on extant text: Between the situations, the ratio of high-level alterations to low level alterations varied most greatly for the High Anxious writers.

Because the High Anxious writers were also the most proficient in English, according to the TOEFL proficiency measure, to what extent these apparent relationships are related to increases in state anxiety rather than to English proficiency remains a question beyond the scope of this study.

4. Little or no relation appears to have existed between reported increases in state anxiety in the examination and apprehension about writing in English. Similarly, for these writers, no relation was evident between a preference for writing in English over writing in the first language and a decrease in state anxiety level from the non-test to the examination situation.
5. Because the subjects who reported to be generally anxious and who reported the greatest increases in state anxiety between the two situations were also those who had the highest TOEFL scores for English proficiency, relations between this proficiency measure and other measures are tenuous. However, the possibility that the more proficient subjects were more anxious because their expectations of passing the examination were especially high must be considered. Perhaps these more proficient subjects saw themselves to be at greater risk than did the others.

6. The final research question posed in Chapter 1 called for explanations by the writers for evident differences between the non-test and examination situations. These explanations are included in the following description of these six writers at work.

II. SIX WRITERS AT WORK

The writers examined in this study were specially selected because of apparent deficiencies in their abilities to perform consistently on essay writing tasks. The scores received on the two texts they produced in the course of this study certainly bear this out. But more importantly, the process-tracing methods employed resulted in a finding of major importance not considered among the research questions which prompted this study: As
similar as these writers may have appeared to be in their
inabilities to produce text of consistent quality, they were very
different in their approaches to the writing tasks; while the
texts they produced revealed that some of them produced papers
consistent in quality more than others, and while text quality
for some improved in the examination situation while it dimi-
nished for others, each writer behaved in unique ways - a
phenomenon which cannot be revealed by words on paper. These
behaviours led to the descriptions of these six writers which
follow.¹

A. Wang: The Efficient, Anxious Writer

Of the six writers, Wang appeared to have the strongest
sense of appropriating his time so that he could accomplish the
task at hand efficiently. In both situations, he set a limit of
about five minutes for pre-writing at the end of which he would
proceed or choose an alternate topic. He also gave himself a
fixed period in which to finish a rough draft so that he would
have ample time to rewrite it completely rather than spend time
"modifying" sentences already constructed. On both occasions, he
focussed his "grammar check" in a particular problem area,
subject-verb agreement, before checking for other errors.

Wang's TOEFL score and his command of vocabulary and English
syntax, evident in both his writing and in his oral communication

¹More elaborate descriptions of these six writers at work in
the two situations are presented in Appendix 13.
skills, would indicate that a lack of general English proficiency was not a great problem for Wang in producing consistently high quality writing.

The variations in Wang's behaviour in the two situations leave little doubt that anxiety regarding the examination was a major factor contributing to the poorer performance of this proficient, efficient writer.

B. Frank: The Fluent Translator

Frank, like Wang, had a good sense of the task expectations, and also like Wang, wrote quickly in both situations, apportioning his time so that he would have ample time to revise and edit his work.

Aware that his greatest problems were the generalizing nature of the essay genre's introductory and concluding paragraphs, on each occasion, Frank forged ahead quickly, in order to draft the body of his essay before writing the introduction and conclusion in final form.

Perhaps because of the great amount of writing he was doing in his academic courses, Frank exhibited, more than any other writer in the study, a sense of the way he usually wrote, employing strategies encouraged by frequent use of a word processor. Also, more than any of other five writers, Frank showed a great dependence on his first language which frequently hindered his fluent progress. However, he was not reluctant to use German to generate ideas, and language to express them, in
order to proceed.

Frank exhibited some cynicism over the university’s re-
requirement that he be able to write an English essay - probably
because of the great amount of writing he was doing in his
graduate-level academic courses and the knowledge that editors
are available to assist in such work. Perhaps this is why his
comments during the interviews included labelling the formulaic
devices he was using to make his text coherent as "stupid".

C. Shiro: The Confident, Low Proficient Writer

Shiro appeared to have a good sense of the task expectations
and set out to satisfy them on both occasions. He planned his
essays accounting for thesis statements and supporting points and
was concerned about coherence throughout. He appeared well aware
of his difficulties writing in English: That they primarily
involved generation of the words and grammatical forms necessary
to get his ideas on paper. His weakness in grammar and vocabu-
lary, borne out by his low TOEFL score and his instructor reports
may largely account for the quality of Shiro’s texts.

That Shiro produced an examination paper assessed to be much
better than his non-test paper may be in part attributable to the
topic variable; that is, Shiro’s Situation 2 topic compared his
impressions of Canadians before and after he came to Canada, a
subject he said he thought about often and about which he likely
had a lot to say.

An increase in his general proficiency in English through a
growth in his vocabulary and a greater mastery of grammatical forms will likely improve the quality of text which Shiro is capable of producing.

D. Jolanta: The Careful, Indecisive Writer

Jolanta clearly had a strong sense of the way her papers would be organized from the outset. And she also had a sense of what was expected in the task: a five paragraph essay, relatively free of errors.

She also had a good sense of the deadline, but numerous times, when faced with a low-level problem of word choice or grammatical form, she refused to get on with the task until she had found a solution. Nearly always, the solution eluded her and she finally proceeded, dissatisfied, because of the pressure of time. On neither occasion did she have more than three minutes to revise or edit her work, activities which she indicated were of value.

In Jolanta's case, the techniques employed by some of the other writers (Wang and Frank, for instance) may have made the difference between passing the examination or failing once again.

E. Kei: The Unaware Over Thinker

In both writing situations, Kei demonstrated an obsession with conveying ideas and their relationships to such an extent that he attended little to the demands of the task. There were
few indications in the video record or his descriptions in the interviews that he was concerned with satisfying the expectations to produce a five-paragraph essay relatively free of errors in syntax and diction.

Having spent nearly half of his time on each occasion in elaborate planning activities, Kei had little time to revise or edit his work. Coming up with ideas appeared to be his priority throughout both of the tasks even though the examination topic he chose was one on which he had written three times before and on which he produced twice as many words as he had writing on the non-test topic.

That Kei had had little experience writing in his first language, and that his English writing had been largely limited to ESL class assignments, may partly account for his lack of composing skill. That his ideas come to him as "images" and "bulky" forms may be evidence of thinking processes well beyond the scope of this study.

F. Liba: The Diffident Writer

Liba appeared to have a good understanding of the expectations of the writing tasks but, throughout both situations, was doubtful about her ability to satisfy them, even though, in the examination situation, she was at ease with a topic which was important to her and which drew totally on her personal experiences and feelings, resulting in a text with 60 per cent more words.
Her comments in both interviews constitute a litany of frustration over her ability to perform and her understanding of what was appropriate for compositions in this genre.

Despite the relative ease of the examination topic, the paper's quality was assessed to be considerably lower than that of her non-test essay, indicating that she may have been seduced by this topic on which she was no more able to write than she had been on the non-test topic.

Accustomed to failure in writing essays assigned in English courses, Liba, whose general English proficiency and oral communication skills were fairly good, insisted, in the writing situations explored in this study, on doubting her ability to meet the demands of the tasks at hand.

III. GENERAL DISCUSSION

Did anxiety play a role in the inability of the writers observed in this study to produce texts of consistent quality? In at least one case, that of Wang, it appears so. Perhaps, Kei, as well, was negatively affected by the increased stress of the examination situation, but the fact that his examination topic was one he had written on three times before, and for which he devoted considerable effort calling up ideas and language structures he had used previously, leaves any attempt to relate his reported increase in anxiety inconclusive.

Frank, the third High Anxious writer, produced a slightly higher quality text in the examination situation. He claimed the
examination paper had been easier to write because his introduction, where he normally experienced the most difficulty, had come to him in English, not, as it had in the non-test situation, in German. Perhaps a reduction in his tendency to translate accounted for his relative success in the examination.

Were the others, those regarded as Low Anxious writers, affected by the increased stress of the examination situation? Bearing in mind that all of these writers were accustomed to failure in examinations of the type under study, all that can be said is that all six exhibited certain behaviours differently in the two situations; to what extent the additional stress was the cause remains a question.

It appears that the examination situation prompted these six writers to generate text of greater syntactic complexity than they did under less stressful conditions. For these writers, perhaps the knowledge that they were being tested prompted them to write longer, more complex sentences. If this is the case, these writers appear to equate complexity of language with writing quality.

That pause lengths and inscribing rates generally increased for all of them in the examination situation suggests that these six writers, accustomed as they were to failure, were prompted both to ponder more and also to race with greater speed against the clock when they were not engaged in pausing activities.

Regardless of the discrepancies among text quality assessments, two of the more proficient subjects spent much less of their time inscribing and more of their time engaged in post-
drafting activity in both situations. The relationship suggested is that writers with greater general proficiency generate text of the sort assigned in these two situations at a faster rate than less proficient writers. The same two writers also made many more alterations while inscribing than did the others. General proficiency in English seemed to enable a writer to make decisions more quickly than less proficient writers. That proportionately these two writers made more on-line alterations which improved their examination texts suggests that general English proficiency may enable more efficient revising, regardless of the difference in situational stress.

IV. IMPLICATIONS

This study has implications regarding practices for assessing composing competence as well as for teaching composition skills - both in English as a first language settings and in settings teaching English as a second language. Implications for research into composing processes also emerge.

A. Implications for Assessment of Composing Competence

The variations in assessment of quality of the texts generated by the writers in the two situations examined in this study support the conclusions made decades ago regarding the questionable validity of basing assessment of composing ability on the quality, assessed by any measures, of only one text. That
standardized tests (such as the TOEFL, with its component Test of Written English), and educational institutions (such as the university attended by the subjects of this study) continue to base assessment of writing competence on one sample of a student's writing is strongly called into question.

Furthermore, that text quality is generally held to be the prime measure of a writer's composing ability is likewise called into question by the findings of this study. Surely the processes a writer employs to generate text (of whatever quality) need to be considered as valid measures of composing skill; the text which results stands merely as an artifact of those processes. Development of assessment procedures which would facilitate evaluation of a student writer's composing behaviours is needed.

In the case of second-language composing competence, assessment procedures need to address the distinction between writing expertise and second-language proficiency. The competent writer whose text quality is affected by low proficiency in the second language needs to be identified so that pedagogy can address the writer's real needs.

Finally, writing process assessment procedures need to identify the idiosyncratic characteristics of certain writers who may be apprehensive about writing or anxious in certain situations in order that pedagogy can address the problems of these individuals as behaviours which can be altered with instruction rather than merely deficiencies in the ability to write.
B. Implications for Teaching

The findings of this study seriously call into question the practice of focussing on the English essay genre rather than on writing skill. To a certain extent, the process-writing approach to teaching composition implemented to varying degrees over the past decade addresses this concern. Nevertheless, as indicated in the interviews conducted in this study, students working to produce the five-paragraph essay demanded by the institution continue to focus on concerns of form and accuracy of language. Until such student writers, in both first- and second-language instructional settings, learn to focus and reflect more on how they write rather than on what they write or what they should write, teachers of composition may have little hope of affecting the ability of their students to perform. It follows that both student writers and those teaching them need training in techniques which will enable them to assess writing processes and to reflect on these processes during the composing act.

In the teaching of second-language writing, students with obvious composing expertise but low second-language proficiency need to be identified and, in the course of instruction, treated differently from those for whom the craft of writing has not been developed. A student such as Shiro, a confident, capable writer who lacks the vocabulary and mastery of grammatical forms required to produce the five-paragraph English essay, has very different needs from a student such as Liba, a writer who suffers from severe doubts about her ability to convey her ideas in the
written form of English.

Teachers of both in first- and second-language composing need to do more than they are already doing to reduce the effect which trait and state anxiety have on the ability of some student writers to perform as well as they can in stressful writing situations. Perhaps by encouraging student writers to gain insight into their individual writing behaviours, writing teachers can help them develop strategies for overcoming the effects of stressful situations. The development of such insights may also help the student writer who is apprehensive about writing to get on with the serious business of learning productively.

C. Implications for Research Methods

This study addressed the serious concern in composing process-tracing research that the subjects under study may not have been demonstrating their abilities and processes fully; that is, that they were simply performing a school-sponsored or research-sponsored task (Hayes & Flower 1983, Hillocks 1986).

In this study, the writers involved wrote essays in an English proficiency examination which would determine their future academic status. In at least two cases, long-term decisions were made based on the results.¹

Considerable variation was revealed in the texts these writers produced and in their behaviours while writing in the two

¹See Epilogue.
situations. Would such variation be evident among writers with greater composing expertise — either in English as a first language or in English as a second language?

The subjects involved were individuals accustomed to failing the particular examination in question. In this respect, they had little to lose by participating in the study. Could a more expert writer, one more assured of passing the examination, be expected to participate? An attempt to examine the composing behaviours of a more expert writer using the techniques employed in this study would likely be frustrated by the writer's refusal to participate.

More sophisticated process-tracing techniques than the video observation procedures employed here may eliminate the threat of intrusion by the researcher, and thereby enable the investigation of the processes of anyone writing under high-stress conditions.

V. QUESTIONS FOR FURTHER STUDY

1. Is apprehension toward writing in a second language related to second-language proficiency? Or is it more related to apprehension about writing in the first language? While writing skill has been shown to transfer from first- to second-language writing, do attitudes to writing transfer also?

2. Are certain composing behaviours associated with inconsistencies in writing quality? If so, how can these be
identified in student writers and what subsequent pedagogical approaches can be devised to alter these behaviours?

3. Are there certain composing behaviours associated with the consistently efficient production of high quality text? That is, are there behaviours which are common to writers who consistently produce high quality text? If so, how can these be identified and how can they be conveyed to student writers?

VI. FINAL NOTES

This study invites speculation on a number of issues for further studies which might be stimulated by this research.

First, the care taken to ensure that the examination topics were no more difficult than the non-test situation topics did not control completely for level of topic difficulty. For instance, Kei's selection of a topic on which he had written three times before could not have been predicted; the likelihood is very strong that remembered content and language structures were unforeseen intervening variables which influenced the way he performed on the examination task. Future studies in this area should attempt to minimize the intervention of such variables by ensuring that topics are new to all subjects.

Second, the study assumed that all of the subjects, by virtue of their having satisfied the university admission requirements, would have had somewhat equivalent levels of
general proficiency in English. However, as their TOEFL scores indicate, the subjects were quite varied in their general English proficiency. This became apparent as well in the varied ability of the subjects to communicate orally as demonstrated in the oral communication which occurred in the course of the study. In addition, the vocabulary problems that some of them (most notably Jolanta and Shiro) displayed in the writing tasks also suggested some subjects were less generally proficient than others. Further studies in this area should select subjects of more uniform proficiency.

Third, because the High Anxious subjects in this study happened to be those who were the most proficient leads one to ask: Were they more anxious in these situations because they were more confident about their abilities in English and hence more frustrated with this university's essay proficiency requirement than were the others? Were they more anxious because they perceived themselves to be closer to success and thereby suffered from a greater sense of risk? By selecting subjects with more uniform proficiency, further studies in this area would eliminate this concern.

Fourth, this study did not explore the writing experience among the subjects. For instance, at the outset, Frank's writing skills on a word processor were unknown. Nor was it known that Kei rarely wrote except in English courses which he was obliged to take or that he did not write to any extent in Japanese. Further studies should consider such writing experience.

Fifth, no data were collected regarding the performance of
these students in their concurrent academic course work; nor was the amount of writing associated with their other courses determined. Frank and Liba, for instance, students of commerce and psychology, almost certainly did much more writing in connection with their courses than Kei and Wang, science students. How such writers cope with the writing demands of their academic courses should be considered in further studies in this area.

Finally, this study calls into question the validity of measurement practices, both in research and in education at large, as they apply to subjects and students who are prone to test anxiety. If, as this study strongly suggests, at least some of these writers perform differently on tests because of trait or state anxiety, scores on measures such as the TOEFL, or even the self-report anxiety and apprehension instruments used in this study, may not reveal what they claim. Further studies involving testing anxiety phenomena should bear this in mind.

Whatever variables were at work in the processes examined in this study, and whatever the degree of caution one must adopt in drawing inferences from this observation of such a small number of subjects, that these research subjects were writing in a situation sponsored neither by school nor by research leaves no question that they were demonstrating, on at least one occasion, their real writing processes.

Braddock, Lloyd-Jones, and Schoer, in 1963, called for composition assessment methods which stimulate writers to perform as best they can. "Surely," they wrote, "there must be some stimulating factor in a topic and, if possible, in the writing
situation, too, if the writing they trigger is to have any significance for research" (Page 6).

Whether or not the topic choices available to the six writers in this study were stimulating, the written English proficiency examination observed in Situation 2, in which so much was at stake, provided a motivation to perform which cannot be denied.

EPILOGUE

Following this study, all of the subjects were granted an appeal examination. Two of them, Kei and Frank, declined the offer to write the examination yet again. Frank decided to return to Germany to pursue graduate studies in commerce and business administration in a university where all of his writing would be in German. Kei decided to go to Japan where he would enroll in a two-year voice-acting program in a technical institute, thereby forfeiting his landed-immigrant status in Canada.

The others, Liba, Shiro, Jolanta, and Wang, wrote the appeal examination. Wang passed, and pursued his studies with full status, unimpeded by the English proficiency requirement (except that, before he can graduate, he will need to pass an English composition proficiency examination which is evaluated in much the same way as the ESL course examination involved in this study).

Shiro, Jolanta, and Liba failed the appeal examination.
Liba’s appeal examination score was 52. Her scores on the two papers produced in this study were 53 and 41. Shiro’s appeal examination text received a score of 35. The papers he produced in the course of this study received scores of 48 and 67. Jolanta produced an appeal examination which scored 34. The essays she wrote in connection with this study received scores of 55 and 51.

Unless the English proficiency regulations and writing proficiency assessment procedures at this university change, these three students will soon be returning to write another examination essay, the quality of which, assessed by the procedures in place, will play very prominently in determining their academic futures.

Yet, the findings of this study strongly suggest that the application of procedures which would assess their writing skills rather than the quality of the texts which they produce would enable instruction to address their deficiencies in writing expertise which otherwise will very likely lead to their failing again.
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Daly, J. & Miller, M. "Further Studies on Writing Apprehension: SAT Scores, Success Expectations, Willingness to Take Advanced Courses and Sex Differences." Research in the Teaching of English, 9, 1975(c).


RESEARCH QUESTIONS:

1. What measurable differences are there in the time spent inscribing while composing in two different situations, one being a test of proficiency in written English and the other a non-test situation?

2. What measurable differences are there in the durations and locations of pauses while composing in the two situations?

3. What measurable differences are there in attention to surface level features of text while revising in the different situations?

4. What measurable differences are there in attention to matters of a conceptual nature while revising in the different situations?

5. What measurable differences are there in the quality of text produced in the different situations?

6. What observable differences are there in the approaches to the writing tasks among the various subjects involved (for example, approaches to planning, drafting, revising, and editing)?

7. If for a given writer, these approaches vary between the two situations, what explanations can the writer offer?
Date:       

From:     Name:       

To:       Ernest Hall

I wish to participate in the project entitled "The Composing Processes of Academic Writers in English as a Second Language." I have read and retained a copy of the description of the project. I realize that I may withdraw from the study at any time for any reason.

Signature:  ____________________________  Telephone:  ____________
Subject Name

Dear Subject Name:

Thank you for agreeing to participate in my research project entitled "The Writing Processes of Academic Writers in English as a Second Language."

Your participation in the project will involve writing two compositions which will take two hours each and which will each be followed by an interview of approximately 30 minutes (or more, if you desire).

The compositions will be video taped as you are writing them and the interviews will discuss the video tape. The interviews will be taped for research purposes.

Participation in this project is voluntary and will be completely confidential. Your name will be concealed by use of a pseudonym in analyzing and reporting the results. You are not under any obligation to participate and you may withdraw from the study at any time for any reason without jeopardizing your opportunity to write the examination at the end of the current session.

The second composition you write for this project will be evaluated according to the examination procedures. A passing score will constitute satisfactory clearing of the English language proficiency requirements.

To participate in this project, please complete the enclosed form and return it to me in the self-addressed envelope. If you have any questions regarding the project, or if you cannot meet for the first taping session, at the time indicated on the enclosed letter of consent, please contact me at the telephone numbers below.

Thank you for your interest. I look forward to your involvement in this project.

Sincerely,

Ernest Hall
Appendix 3

Daly-Miller Writing Apprehension Instrument

Dear Student:

The following questionnaire is for my research project concerned with helping students improve their writing skills. This questionnaire is for research purposes only and is confidential. It is not related to your course and will not be shown to your instructors. Please write your name and native language in the spaces provided and follow the directions below regarding your writing experience in your native language.

Thank you for your assistance.

Ernest Hall

WRITING EXPERIENCE REPORT

Name: ___________________________ Native Language: ________________

Family First

Directions:

Below are 26 questions about writing in your first language (NOT ENGLISH). Please circle the letter which describes how you feel about writing in your native language.

1 = I Strongly Agree
2 = I Agree
3 = I am Uncertain
4 = I Disagree
5 = I Strongly Disagree

Because of your cultural background, you may not be able to respond to some of these statements about writing in your native language. If you feel that the statement does not apply to writing in your native language, please write DNA in the space left of the statement.

MY NATIVE LANGUAGE:

<table>
<thead>
<tr>
<th></th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: The second page of the two writing apprehension instruments is reproduced on Page 156.
Dear Student:

Thank you for responding to my questionnaire regarding your writing experience in your native language. Below is a similar questionnaire regarding your experience writing in English. Please follow the directions given.

This information is for my research project concerned with helping students improve their writing skills. This information is confidential. It is not related to your course and will not be shown to your instructors. Please write your name in the space provided so that I can match this questionnaire with the earlier one.

Thank you for your assistance.

Ernest Hall

WRITING EXPERIENCE REPORT

Name: ____________________________________________________________

Family First

Directions:

Below are 26 questions about writing in English. Please circle the letter which describes how you feel about writing in English.

1 = I Strongly Agree
2 = I Agree
3 = I am Uncertain
4 = I Disagree
5 = I Strongly Disagree

IN ENGLISH:

1. I avoid writing. 1 2 3 4 5
2. I have no fear of my writing being evaluated. 1 2 3 4 5
3. I look forward to writing down my ideas. 1 2 3 4 5
4. I am afraid of writing essays when I know they will be evaluated. 1 2 3 4 5

(Please turn over.)
5. Taking a composition course is a very frightening experience. 1 2 3 4 5
6. Handing in a composition makes me feel good. 1 2 3 4 5
7. My mind seems to go blank when I start to work on a composition. 1 2 3 4 5
8. Expressing ideas through writing seems to be a waste of time. 1 2 3 4 5
9. I would enjoy submitting my writing to magazines for evaluation and publication. 1 2 3 4 5
10. I like to write my ideas down. 1 2 3 4 5
11. I feel confident in my ability to clearly express my ideas in writing. 1 2 3 4 5
12. I like to have my friends read what I have written. 1 2 3 4 5
13. I'm nervous about writing. 1 2 3 4 5
14. People seem to enjoy what I write. 1 2 3 4 5
15. I enjoy writing. 1 2 3 4 5
16. I never seem to be able to clearly write down my ideas. 1 2 3 4 5
17. Writing is a lot of fun. 1 2 3 4 5
18. I expect to do poorly in composition classes even before I enter them. 1 2 3 4 5
19. I like seeing my thoughts on paper. 1 2 3 4 5
20. Discussing my writing with others is an enjoyable experience. 1 2 3 4 5
21. I have a terrible time organizing my ideas in a composition course. 1 2 3 4 5
22. When I hand in a composition I know I'm going to do poorly. 1 2 3 4 5
23. It's easy for me to write good compositions. 1 2 3 4 5
24. I don't think I write as well as most other people. 1 2 3 4 5
25. I don't like my compositions to be evaluated. 1 2 3 4 5
26. I'm no good at writing. 1 2 3 4 5
1. I do my best work when I am under pressure.

2. Before a test I am nervous, but after the test starts, I am not very nervous.

While I may (or may not) be nervous before taking an exam, once I start, I seem to forget to be nervous.

3. Being nervous during a test helps me to do better on the test.

Nervousness while taking a test helps me do better.

4. When I am taking a test, I don't think of anything else.

When I start a test, nothing is able to distract me.

5. If the only grade for a course is the grade on the final test, I do better on the test than my classmates.

In courses in which the total grade is based mainly on one exam, I seem to do better than other people.

6. I look forward to tests.

I look forward to exams.

7. If I study hard immediately before a test, I learn things that are useful for the test.

Although "cramming" under pre-examination tension is not effective for most people, I find that if the need arises, I can learn material immediately before an exam, even under considerable pressure, and successfully retain it to use on the exam.

Note: The modified questionnaire is reproduced in its entirety in Appendix 6.
Appendix 6
Alpert-Haber AAT (Modified for ESL Subjects)

Dear  Student:

Thank you for responding to my questionnaires regarding your writing experience in your native language and in English. Your responses will be very valuable to my research. Below is the last questionnaire I need for my research project.

This information is for my research project concerned with helping students improve their writing skills. This information is confidential. It is not related to your course and will not be shown to your instructors. Please write your name in the space provided so that I can match this questionnaire with the earlier ones.

Thank you for all of your help.

Ernest Hall

TEST AND EXAM EXPERIENCE REPORT

Name: ____________________________ Family First

Directions:

Below are statements about taking tests or examinations IN GENERAL. They are NOT about taking tests of your ability to use English. Please circle the letter which describes your experience taking tests or exams IN SUBJECTS OTHER THAN ENGLISH.

1 = Never
2 = Seldom
3 = Occasionally
4 = Frequently
5 = Almost Always

N  S  O  F  A

1. Nervousness causes me to do poorly on an exam or test. 1 2 3 4 5
2. I do my best work when I am under pressure. 1 2 3 4 5
3. When I have been doing poorly in a course, my fear of a bad grade makes me inefficient during an exam or test. 1 2 3 4 5

Please turn over
4. If I am not prepared for a test, I get upset, so I don't do as well on the test as I can.  1 2 3 4 5
5. I do better on less important exams than I do on more important ones.  1 2 3 4 5
6. Before a test I may be nervous, but after the test starts, I am not very nervous.  1 2 3 4 5
7. After an exam or test, I remember answers that I couldn't remember during the exam or test.  1 2 3 4 5
8. Being nervous during a test helps me to do better on the test.  1 2 3 4 5
9. When I am taking a test, I don't think of anything else.  1 2 3 4 5
10. If the grade for a course is based mainly on the final exam, I do better on the exam than my classmates.  1 2 3 4 5
11. At the beginning of an exam, it is difficult for me to think. I need a few minutes before I can begin the exam.  1 2 3 4 5
12. I look forward to exams.  1 2 3 4 5
13. When I start an exam, I am so tired from worrying about the exam that I don't care how well I do.  1 2 3 4 5
14. I do worse than my classmates on a test because the time is too short.  1 2 3 4 5
15. I can learn material for an exam by studying hard (cramming) immediately before the exam.  1 2 3 4 5
16. I enjoy taking a difficult exam more than an easy one.  1 2 3 4 5
17. I have to read a test question several times before I understand it.  1 2 3 4 5
18. I do better on an important exam or test than I do on one that is not important.  1 2 3 4 5
19. If I am unhappy with my answer to a difficult question early in an exam, I become upset, so I have difficulty with easier questions later in the exam.  1 2 3 4 5
Appendix 7  
Situation Procedures Checklist

The Composing Processes of Academic Writers in English as a Second Language

To the Student: Today you are writing the final examination. The paper you write will be marked with the other exams being given this week. If you pass, you won't need to take again. If you fail, you may have to repeat the course to prepare for the exam and your other studies will continue to be restricted until you pass the exam.

Procedures:

1. Pseudonym on Text 1
2. Administer Spielberger instrument
3. Ensure position is comfortable
4. Adjust camera position
5. Tape paper bounds
6. Advise of tape switching
7. Handout Exam questions
8. Review directions

Interview:

1. Did the camera bother you more than when you wrote the first essay?
2. Did you feel more nervous this time than last time?
3. Was this essay harder or easier than the first essay?
4. Why? Did you do better?
5. Do you feel you did anything differently than in the first essay?

Segment 1

1. Why did you choose this topic?
2. Did you think about the topics in (first language)?
   What ideas came to you in (first language)?
3. How much of the essay did you plan before you began?
4. When you began, why did you begin the way you did?

Segment 2 (As lengthy pauses occur)

5. Why did you stop at this point?
6. Why did you make that change?
   Pursue LL use.
7. What were you thinking just before you began writing again?

Segment 3 (Similar to Segment 2)
In evaluating your paper, markers noted a number of weaknesses in your work.

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>ORGANIZATION</th>
<th>SENTENCE STRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>no clear central idea</td>
<td>faulty development (in essay as a whole)</td>
<td>lacks sentence variety (over-reliance on simple sentences)</td>
</tr>
<tr>
<td>logic is faulty</td>
<td>faulty development (one paragraph) (no indentations)</td>
<td></td>
</tr>
<tr>
<td>generalizations are not supported with specific details</td>
<td>repetitiveness</td>
<td>irrelevant material</td>
</tr>
<tr>
<td>faulty paragraphs</td>
<td>lack of:</td>
<td></td>
</tr>
<tr>
<td>unity</td>
<td>faulty predication</td>
<td></td>
</tr>
<tr>
<td>development</td>
<td>mixed construction</td>
<td></td>
</tr>
<tr>
<td>coherence (i.e., transitions missing or transitions used illogically)</td>
<td>run-on sentence</td>
<td></td>
</tr>
<tr>
<td>internal logic</td>
<td>illogical comparison</td>
<td></td>
</tr>
<tr>
<td>excessive use of short paragraphs</td>
<td>faulty subordination</td>
<td></td>
</tr>
<tr>
<td>weak support for generalizations</td>
<td>faulty coordination</td>
<td></td>
</tr>
<tr>
<td>weak introduction</td>
<td>comma splice</td>
<td></td>
</tr>
<tr>
<td>weak conclusion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MANDATORY FAILURE:

Essay is off topic
Essay is too short (i.e., does not meet required word limit)

[Check marks below indicate the types of errors you have made.]

<table>
<thead>
<tr>
<th>GRAMMAR</th>
<th>DICTION</th>
<th>MECHANICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>agreement faulty:</td>
<td>wrong part of speech</td>
<td>articles: misused or missing</td>
</tr>
<tr>
<td>pronoun use faulty:</td>
<td>subject and verb</td>
<td>preposition incorrect</td>
</tr>
<tr>
<td>gender / agreement</td>
<td>tense</td>
<td>singular/plural nouns</td>
</tr>
<tr>
<td>verbs faulty:</td>
<td>tense sequence</td>
<td>irregularity</td>
</tr>
<tr>
<td>form</td>
<td>passive (for intransitive verbs)</td>
<td>verb idiom faulty</td>
</tr>
<tr>
<td></td>
<td></td>
<td>wrong word II: (minor)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>word missing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>misspelled punctual</td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

COMMENTS:
EXAM MARKING SHEET

1. Tally points off on the "Writing Assessment" form. Total these and write the total and your initials in the appropriate spaces below.

2. Convert as follows:
   - Multiply points off by 300
   - Divide this by the word count
   - Subtract the results from 100 for final score

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>Family Name</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Count:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Points Off</th>
<th>Converted</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marker #1</td>
<td>( )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marker #2</td>
<td>(English Dept)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marker #3*</td>
<td>(English Dept)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(*Only in the event of pass/fail disagreement between Marker #1 and Marker #2)

MARKER 2/3:
Final scores of less than 65 are failing scores.

FINAL ASSESSMENT:  Pass    Fail

If final assessment is "Fail", would you recommend/support an appeal?
Yes    No

FOR OFFICE USE ONLY

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>Family Name</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Pass    Fail    Appeal
Appendix 10
Sample Pre-Writing Activity
(Jolanta, Text 2)

Compare the ideas you had about Canadians before you came to Canada with your present impressions.

1) Introduction
   Everyone can imagine things, people, places he does not know but only dreamed or heard about. They often differ from the reality.
   I also had this imagination about Canadians before I came to Canada and found myself has they really are.

   (Jolanta, Text 2)

   I found Canadians slightly different from those I have
   imagined them more like pople of a similar mind.
   - Canadians are not very open people.
   - They are not like foreigners as I thought before they could like them.
   - There is also a good rule of differences,
   - They know how to have a fun even in ad age
   - They know how to laugh, play, everything is normal.
   There is not so many restrictions for children as in my country and as it

   In expectations, formerly thought would be in Canada.

   Jolanta, Text 2
Appendix 11

Sample Pausing Notation

My parents were born a little before the World War II. So both of them experienced the war. They sometimes tell us, children, about it.

(Especially when we complain about meals) when we have meals together. If some of us complains about it, they get angry at him. Furthermore, they tell us how happy we, younger generations, are compared with them. I can agree with them and think that we live in the far better world than that our parents lived in when they were young.

First of all, and the most important factor, we have not experienced (the war). I

17:20 minutes.
Real Canadians are very different from my previous ideas.

First of all, Canadians are very different from Americans. We, Japanese, tend to think Canadians are very similar to Americans because both of them speak [[the]] same language, [[,]] dress in the same manner, have same kinds of food, and so on. In spite of these similarities, Canadians are more conservative (than) Americans. (I can find a lot of differences between Canadians and Americans), [[,]] too. For example, Canadians are more conservative than Americans. Canadians show keen interest in foreign countries and languages. [Usually Americans do not.] (They) Canadians are less cheerful on the surface (compare to) [but more reliable compare to] Americans.

Second...
WANG

Wang, a first-year university science student, had failed the exit examination at the end of his first session in the ESL course. Because of his performance in the course, he was granted an appeal examination which he likewise failed. His instructor reported that he should be "doing better" because of his superior passive knowledge of grammar, and that he often ran short of time writing in-class practice essay examinations.

Wang had the highest TOEFL score of the six subjects at 630, which perhaps reflected his 13 years of study in English. Wang also reported a preference for writing in English over his native language (Cantonese) in which he had never studied composition and reported that English was the predominant language of his home. His test scores showed him to be the least apprehensive of the six writers about writing in English the instruments measuring anxiety showed him to be among the High Anxious group.

Situation 1

Following the Situation 1 task, Wang said the camera did not bother him at all. He spent about five minutes considering three of the topics before deciding to "give Number 3 a try" for five minutes, after which he would choose another. He began by
listing "reasons," suggested by the assignment sheet and began listing "key words" in order to "throw out some ideas." He said he wasn't concerned about grammar while writing the "rough." He said he had planned to write a rough draft for the first hour.

In the topic selection process and pre-writing activity, Wang said all of his thinking was in English and that no ideas came to him in Cantonese.

While viewing the second video segment of the Situation 1 task, during which he was writing the conclusion in his rough draft, Wang explained his return to the introduction was to find key words to guide his writing of the conclusion. Struggling to generate a final sentence, Wang said he had felt "this kind of ending is not good enough. It doesn't really put an end to the essay."

With nearly half of his time remaining, Wang began a "grammar check" during which he read much of the text aloud because, he said, this helps and he sometimes does this when writing privately. "When you hear it, if it sounds odd, then you notice but in the mind it sometimes just goes through. . . ." He said his grammar check was mainly "kinda looking at verbs" because he knows he has a problem with subject-verb errors.

While watching the final 10 minutes of the task Wang explained his approach to the drafting:

I was thinking if I write it a second time then instead of sticking with the awkward sentences that might happen to occur in the first draft, I mean, it becomes difficult to modify, crossing words, correcting this, and so instead of that, I decided to rewrite everything. And that way I can just read the idea of the sentence in the previous one, and if it sounds all
right, I won't change it, but if it sounds weird, then I will change the sentence.

He said he had recently been told by a tutor to rewrite a paper in which errors had been located but not identified. The resulting improved paper prompted him to adopt this new re-drafting approach which he said he had never used before, certainly not in testing situations.

**Situation 2**

In the Situation 2 interview, following the examination, Wang said he had been "slightly more nervous" than in Situation 1 because this was the actual examination, but that the camera hadn't bothered him at all. He said the paper had been about as difficult at the Situation 1 paper but that he had been less efficient because he had spent more time on the rough draft. He said he had written on a topic similar to the Situation 2 topic with his tutor three weeks before.

In fact, Wang spent about the same amount of time in pre-writing activity as he had in Situation 1 and considerably less time inscribing his rough draft (37 minutes compared with 43 in Situation 1) although the writing period was 20 minutes longer. Wang said he had not felt pressured by time in the examination essay.

Wang said he felt the quality of the examination essay was about the same as the quality of the previous essay, although his first draft was worse than in Situation 1 because he was "ini
tially nervous." He said he "paid a lot more attention on some of the errors I always make" in Situation 2 than in Situation 1.

In the examination task, Wang employed many of the strategies he had used in the first task. During his pre-writing he listed ideas as they occurred to him, although there was evidence of a concern for ordering them to fit the contrasting mode of the topic. He reported several instances in which he abandoned a problem, deciding to return to it later. His post-drafting activity included an error check focusing on subject-verb errors and a second check in which he was "focusing on everything." Again, he reported no dependence on his first language.

When prompted during the Situation 2 interview, Wang said he usually writes a rough draft and rewrites it later, contradicting his claim a month previously in the Situation 1 interview that this was a new strategy prompted by recent tutoring. Perhaps his experience with this approach had encouraged him to adopt it as usual practice.

Variation

Wang's examination topic was similar to one on which he had recently written and he was being tutored weekly during the interim between the two tasks. How, then can the decrease in quality from his Situation 1 text to his examination text (the greatest decrease among all six writers) be explained?

In his examination text, Wang lost proportionately a greater number of points for high-level deficiencies; that is, he appears
to have attended to matters of a lower level of importance at the expense of others. The syntactic complexity of his examination text was only slightly greater than that of his Situation 1 text.

Wang's mid-length pauses increased greatly in frequency and he spent 38 per cent more of his time in pauses greater than 10 seconds in length according to the examination inscribing period sampled. Proportionately fewer of his pauses were within clauses or phrases; that is, in the inscribing periods sampled, Wang paused more between syntactic units during the examination than he had in the non-test situation.

Wang's cosmetic alterations in the inscribing periods sampled more than doubled during the examination, even though, in both situations, he was writing a rough draft. Proportionately, many more of his alterations of extant text were of a high-level nature in the examination inscribing periods sampled; that is, he appears to have attended more to matters of a conceptual or discourse nature during the examination.

The inscribing samples indicated that proportionately fewer of Wang's alterations were necessary to enable him to continue inscribing during the examination and proportionately more of his alterations resulted in improvements to the text.

Considered collectively, the variations in Wang's behaviour in the two situations leave little doubt that anxiety regarding the examination was a major factor contributing to his poorer performance.
Frank, an unclassified commerce graduate student, had been enrolled in the ESL course only once but had failed the final examination and the subsequent appeal. The Situation 2 examination was his last opportunity to meet the English proficiency requirement; failure would mean returning to Germany. His instructor indicated she would initiate an appeal again should he fail a third time because she had worked with him on written assignments for his commerce courses. She reported "he manages much better with material from his own field than he does with (English course) assignments. His main problems in writing English were with prepositions, idioms, and on occasion, paragraph development. With a TOEFL score of 590, Frank was among the most proficient of the subjects and, orally, was very fluent. Because he was living with another German student, Frank said he spoke German and English to about the same extent at home in Vancouver.

Situation 1

In the Situation 1 interview, Frank said the camera had not bothered him. He said he had been surprised when he saw the topic choices because the topics were "not stupid," like examination topics he had encountered in the course before. He set out to choose the easiest one, but compromised between the easiest and the one that was most interesting.
For the first six minutes, Frank said he brainstormed the "points" for his essay. He said these came first to him in German and he translated them into English before writing them. He said this "always" happens when he plans his writing in English and that, if his translating fails, he will write the note in German and translate it afterward.

Throughout his pre-writing, Frank muttered to himself in German. "I got very, very easy the points, but it's always a problem for me to start," he said. He called this "the white sheet problem," adding, "If I can get the first sentence, the rest of it is going."

Frank began writing quickly, planning to return and change the beginning. "I start to write something. At the end I go back and change it." Almost immediately, he encountered a translating problem which resulted in a highly complex sentence, containing two conditional structures, which he realized was confusing. Consequently, he began the sentence again, by writing something "very stupid." On the video, in German, Frank muttered that the writing was "stuff without content to fill pages."

Because his topic involved comparisons, he decided to approach the topic by contrasting advantages and disadvantages, a decision about which he was critical. "This is the same stupid stuff. You can write this on more or less all topics," he commented.

He said his primary purpose was to finish the introduction so he could proceed. "Then it would go much smoother." He said he "always" rewrites his introduction.
In the second segment of the video, Frank was rewriting his introduction before proceeding with his conclusion, having written the main body of his essay. He decided to simplify the sentences in the original text because "it looks like a lot of grammar mistakes." He rewrote his introduction as a rhetorical question and dwelt at length over changing the verb "is not" to "seems not to be" because, he said, the latter "looks like high quality English, artificial, nice, and so on."

In his revision, Frank eliminated the "stupid" sentence and set up the organization for the paper by enumerating the points he had made in writing the body of the essay, during which he muttered, in German, that this was "stupid."

Proceeding with revisions of the succeeding text, Frank filled in a number of spaces he had left in the drafting because, he said, he had not found the English words or expressions during the drafting. On one occasion, he had used a German idiom and was surprised to learn it was not an English phrase. At one point he said he had an expression which was "very, very nice in German and I was trying to translate it into English."

Frank had problems writing his conclusion during the final segment of the video. He said this is a usual problem for him. Detecting a German syntactic structure in his final sentence, he deliberated at great length to change it. He then read the entire paper aloud because, he said, "if I can hear the text I see the points which are rough so I can find problems."

During this revision and editing period, Frank devoted several minutes to a lexical problem involving translation of a
German idea. He eventually abandoned the problem because "that was not the right word in English, so I decided to cancel it."

He also made numerous cosmetic changes. "If I don't do this," he said, "I get a lot of mistakes because of the writing."

Frank's approach to these writing tasks may well be related to his work using a word processor. He noted in the Situation 1 interview:

"Normally I write everything on the computer so there you can - easy to change, no problem. So it looks messy. I don't use paper anymore. I write my commerce essays directly on the computer. If I don't know a word, then I write some other word or a German word in this place. When I get new ideas, I can put them in."

Situation 2

In the examination situation, Frank said he was a "little more nervous" than he had been before but that the camera hadn't bothered him because he was "used to it."

He immediately ruled out one topic because it called for specialized vocabulary and another because it was "stupid." He had written before on a similar topic to the one he chose. He said the examination topic he chose had at first looked more difficult than his non-test topic, but that the writing had been easier, partly because the introduction had come to him this time in English. After five minutes of brainstorming, most of which he said occurred in English, Frank reread the topic and began writing quickly because he "got the sentence" from reading the topic. After writing four sentences, however, he stopped.
"Until this point I had everything in my mind and now I had to write something new," he said in the interview. He recognized the repetition of a word in his fourth sentence was "stupid, wrong," and began "trying ideas" in German and English, searching for a way to connect his introduction to the succeeding paragraph. "I knew what I wanted to write in the main part but I couldn't find this," he said.

Proceeding, he bogged down in the first sentence because he had an idea which he "couldn't get in the sentence," so he tried restructuring the sentence. "This didn't work either, so I cancelled everything," he noted.

After 55 minutes, Frank had completed his conclusion and was revising and editing his paper. In the interview he said, "I have to write a lot of stuff so I'm used to write very fast. Then I need some time to correct it." His alterations were largely cosmetic (reformation of characters) and substitution of words to avoid repetition.

Turning to the end of the paper, Frank read each sentence in reverse order because his instructor had told him to. When asked why, he said he didn't know. "But I decided to try it," he said.

In the final 10 minutes of the examination, Frank inserted an article at one point because it "sounded better." Finding a sentence which he felt was "too long and confusing" he simplified it. At another point he was sure the sentence was grammatically correct and that an addition to improve the content would make it grammatically wrong, so he abandoned the wish to make the improvement.
Cynically, he commented:

"I think in some exams the ideas are not important because a lot of people only look at the grammar and the mistakes. When you write an exam then you write as easy as possible to make less mistakes. If the style or content is not so good it's not important. Normally you don't get mistakes for bad style or bad content. You only get mistakes for grammar or spelling. So the teacher always told us not to choose the topic which looks most interesting, but to choose the one where you can write the most, where you know the vocabulary, et cetera."

Variation

Frank was among the two subjects of this study for whom the quality of text produced in the examination situation was assessed to be higher than that produced in the non-test situation. The ratio of points deducted for high-level deficiencies compared with low-level deficiencies differed little for the two texts, as did the syntactic complexity.

In the inscribing periods sampled, the frequencies of pauses of different length likewise differed little. However, Frank spent a much greater portion (38 per cent) of his time in the examination inscribing period sampled in pauses greater than 10 seconds long than he did in the non-test situation. In addition, the inscribing samples indicated that proportionately a much greater number (30 per cent) of his pauses were within phrases or clauses rather than between syntactic units.

The inscribing samples indicated Frank performed proportionately more high-level alterations to extant text in the examination situation than he did in the non-test task and that slightly fewer of these resulted in textual improvements.
Shiro, an unclassified graduate student in forestry, had taken the ESL course once and had failed both the exit examination and a subsequent appeal examination. His instructor reported that 50 per cent of his work during the course had been of passable standard but would not predict his success or failure on the final examination because of weaknesses he had in grammatical features such as articles and prepositions.

Shiro expressed a preference for writing in his native language (Japanese) over writing in English, demonstrated by his second lowest score on the writing apprehension instrument. He had studied composition for 12 years in Japanese and English had 12 years of English behind him. English was the language most commonly used at home in Canada.

Shiro's scores for trait and state anxiety showed him to be among the least anxious of the six subjects in the study. On the TOEFL English proficiency measure, he was among the least proficient subjects, with a score of 523, well below the usual admission requirement of 570. He had been admitted by his graduate department under special conditions.

Situation 1

In the Situation 1 interview, Shiro said he considered three of the topics before choosing the one that would be easiest because he quickly had "three separate supports" in mind for this
topic. During his pre-writing, Shiro indicated, he wrote down ideas as they occurred to him, not necessarily in any particular order and that he ended this generation period when he had three supporting points for his thesis statement because, he said, "It's very good, I learned." Before beginning his inscribing, Shiro classified the items in his pre-writing notes by numbering them.

He said that during the planning of his paper, the ideas came to him first in English and only when he had "difficulty to explain or to think out" did he switch to thinking in Japanese.

Watching the second segment of the video tape, in which he was engaged in inscribing, Shiro pointed out a number of considerations he made. He noted that, for him, often a noun and its accompanying article occur to him as one unit and that he then must determine whether it is correct in English. He debated using the term "convenience store" and settled for "7-Elevens" because he thought the former may have been "Japanese-English." He was aware of avoiding repetition, a need for specific examples to support his general statements, and on occasion deliberated over the need for transitional devices. Many times throughout the writing, Shiro debated the correctness of the lexical choice or grammatical form with numerous references to what he had learned.

At one point when he was stuck at the beginning of a sentence, Shiro explained that he returned to the previous page: "Sometimes I have difficulty to write down sentences and I just want to go back to read from the first part. . . (to see if) the
first part I've already written is one flow." He said he often has blocking problems between sentences. "For me, make one sentence is a very difficult process and like if I follow from up there to down bottom it sometimes makes me easier to, because when I read or listen to the English it's more easy to make a better sentence or sometimes make correct sentence. So sometimes if I have difficulty, I always go back to other part. Shiro said he usually generates the entire sentence in his mind before he writes it.

Shiro summed up his writing problems as follows:

At that time, when I am writing, I have an idea and I'm sure that my writing is good. But when I stop is sometimes I don't have idea it follows. . . after that sentence so I'm thinking about what kind of sentence or what kind of idea I have to put after this sentence. Or sometimes I can't get a proper sentence. Those are what I have as problems.

Situation 2

In the Situation 2 interview, Shiro said the camera had not bothered him and that he was nervous to about the same degree as he was in the non-test situation. He said he felt the examination paper was better because the topic was one he thought about often and hence easier.

He reported that his thinking was entirely in English and that he used similar procedures to those he used in the Situation 1 task. During his pre-writing, Shiro randomly brainstormed his ideas and ordered them numerically, not concerning himself with
grammar. He said his efficiency was similar to that of Situation 1, but contrasted it to his writing in Japanese as follows:

Compared with Japanese writing it's very very slow and I waste a lot of time to connect one idea to another idea. And because of thinking in English - Actually I don't conscious about thinking English or Japanese when I have to write in English, but I don't think anything usually in Japanese so I need more time to think about what kind of idea I'm going to write or just make sentence need more time. So takes longer time, and sometimes I have to read back what I wrote before. I sometimes do it in Japanese too, but in English it's more and quite often.

The video recording revealed similar concerns to those in the first task: Concern for lexical and grammatical correctness, searches for supporting examples, avoiding of repetition, and generation of the following sentence.

Again, in this interview, Shiro said he always forms the sentence in his mind before writing it.

Variation

There appeared to be little difference in Shiro's behaviour between the two situations. However, the results were different: Shiro's examination text showed the greatest improvement in quality over his non-test paper with proportionately fewer high-level deficiencies compared to low-level deficiencies. The syntactic complexity of his examination paper was slightly greater.

In the inscribing periods sampled, the frequencies of pauses of various lengths differed little, but he spent a greater
portion (23 per cent more) of his time in the examination in pauses of greater than 10 seconds in length. The locations of Shiro's pauses in relation to syntactic units and the proportion of high- to low-level alterations of extant text both varied little in the inscribing periods sampled.

While there was little difference in the ratio of generative alterations to total alterations in the inscribing periods sampled for Shiro, proportionately fewer of these resulted in improvements in the examination sample.

JOLANTA

Jolanta, a second year economics student, had taken the ESL course twice and failed the final examination each time. She also failed a subsequent appeal after her second failure. Her instructor reported that 60 per cent of the essays Jolanta had written during the course were of passable quality and that she would initiate an appeal if Jolanta failed the examination again. While her weaknesses were in English verb tenses and articles, she had a good grasp of the essay genre and she often wrote "very good essays," according to her instructor.

With a TOEFL score of 561, Jolanta was fairly proficient and orally quite fluent. She reported that Polish was the language at home in Vancouver. Scores on the anxiety and apprehension instruments showed her to among the subjects least anxious about testing and least apprehensive about writing in her first
language. However, the difference between her apprehension about writing in her first language and in English was greater than that for any of the other subjects. Although she was the most anxious about the non-test situation, Jolanta reported the greatest decrease in her state anxiety level regarding the examination.

**Situation 1**

In the interview following the non-test situation, Jolanta said the camera hadn't bothered her at all and that she felt more comfortable writing alone than she usually did in class. She thought the task had been easier than writing an examination essay.

Jolanta said she chose her topic because she could write from her own experience, which would make the task easier. She said her thinking was in Polish as she was considering her topic choice, but when she began brainstorming her ideas, they came to her in English.

Jolanta's pre-writing activities, which occupied 19 minutes, involved first writing a thesis statement, which she labelled as "introduction" and then listing and enumerating "reasons" which supported the thesis statement. For one of these "reasons," she wrote fairly syntactically structured elaborating notes. For the other point, however, she did not elaborate because, she said, she "knew what (she) would be writing." For the others, "it was unclear." She then spent considerable time trying to generate a
third "reason" because "two reasons wouldn't be enough." She said she didn't consider a fourth because she knew she "wouldn't have enough time to develop a fourth paragraph."

After elaborating on the third point in her notes, Jolanta said she was not really satisfied but thought "that's enough for now," and began making notes for her conclusion. She said that during the planning period she tried to think in English "because I know it's easier for me later on when I write if I make the outline in English. If I do it in Polish, then it takes more time." She said she sometimes writes a Polish word and later "I find out what the word means (in English)."

The second video segment of the non-test situation showed Jolanta deliberating numerous times (once for more than six minutes) over lexical and grammatical matters. She pondered over a preposition. She looked up a word in the dictionary, couldn't find it, and, after several minutes, wrote it, and proceeded because she couldn't think of an alternate. On another occasion, she knew the word she wrote was "not the right word but I wrote it anyway because I didn't find the right one and there's not enough time to think about every word. Beginning a new paragraph, she paused for several minutes searching for a transition word with which to begin. On each of these occasions, before proceeding, she read her text from the beginning, then wrote the word or phrase she had muttered, and carried on. "I was not satisfied but I continued because I spent too much time already on that," she commented regarding one of these occasions.

With 10 minutes remaining in the writing period, Jolanta was
beginning her conclusion hesitated over another lexical choice. She said the word, opened her dictionary but couldn't find it, and read her paper again from the beginning. "Sometimes reading helps me to continue, but not in this case," she said. She then wrote the word and proceeded to the end of her conclusion, at which point, she glanced at her watch to find two minutes remained.

She again read her paper from the beginning because she "was looking for certain words and mistakes." In this brief post-drafting period, she made no alterations.

**Situation 2**

In the interview following the Situation 2 examination, Jolanta said she had not been bothered by the camera, that the task had been easier, and she felt the essay was better than the non-test paper. She said she had done nothing differently from what she had done in the previous situation. However, her work showed that her pre-writing activity was much more elaborate and her outline included a large section of text in Polish.

The video recording of this task revealed Jolanta behaving in much the same way as in the former task, halting frequently (once for more than six minutes) over word choices and grammatical problems, reading her text from the beginning, and proceeding with the writing even though she was dissatisfied with her decision.

Again, with only 10 minutes of the writing time remaining,
Jolanta had just finished the third paragraph of the body of her essay and was concerned because she hadn't yet begun the conclusion.

**Variation**

Although Jolanta was more confident about the quality of her examination paper than about her earlier non-test paper, it was assessed to be of poorer quality. Proportionately, in the examination, she lost more points for deficiencies of a high order than she did for the non-test essay. Compared with the Situation 1 text, Jolanta's examination paper showed the greatest increase in syntactic complexity (29 per cent) of papers produced by the six writers.

In the inscribing period sampled from the examination situation, nearly half of Jolanta's pauses were greater than 60 seconds long whereas in the inscribing period sampled from the non-test situation, most of her pauses were less than 30 seconds in duration. Proportionately, she spent the same amount of time in pauses greater than 10 seconds long in the two situations. There was little variation in the locations of Jolanta's pauses in the inscribing periods sampled.

Jolanta performed very few alterations to extant text in either situation and those she performed represented improvements in the text to about the same degree.
KEI

Kei, a second-year science student, had been living in Vancouver for five and a half years and had graduated from a Canadian secondary school. Although Japanese was the language of predominant use at home, Kei was orally quite fluent in English and scored the second highest TOEFL score of all the subjects (600). He had been failing the university ESL essay examination and instructor-initiated appeals since the first of three ESL courses in which he had been enrolled. Although he was not required to take the ESL courses, he was doing so because this enabled him to postpone taking the regular university freshman English course which he was certain he would fail.

His scores on the anxiety and writing apprehension instruments showed him to be among the highly anxious group but that he was not as apprehensive about writing in English as most of the others. Kei's first language of writing was English; that is, he had not written in Japanese since his early school years in Japan. Most of his reading outside of his course work was in Japanese.

Situation 1

In the interview following the non-test Situation 1 task, Kei said the presence of the camera hadn't bothered him except that he was concerned that his shoulder was obstructing the camera. He said he chose the topic he did by eliminating the
others. He could not write on the topic related to his native country because he had been so long in Canada. Because of the difference between his parents' ages, the topic related to generation differences was inappropriate, and women's liberation is a topic he avoids. He chose the censorship topic because this had been a topic of conversation recently.

Kei said he wasn't sure to what extent he depended on his first language to generate his ideas. "When I sort of start making decisions it sort of goes in halfway-halfway," he claimed. "I'm not so sure which language I use to think." Later, he said his ideas came to him "as images type of things," as "bulky type of things, partly in English, partly in concept."

Kei spent the first 49 minutes of the 100 allotted brainstorming notes and elaborating on these in a lengthy outline which underwent numerous revisions including reordering, lexical changes, and cosmetic alterations (reformation of characters). He said he always makes an outline after jotting down "whatever comes up to my mind." He said he began writing when he did because of "time pressure."

When Kei finally set out to write his introductory paragraph he said questioned whether he would be able to follow his plan. "I just sort of started to think, 'wait a minute. I may not be able to follow the outline after all.' This was sort of the first thing that came to my mind." He added that this did not bother him because in a previous examination essay he hadn't followed his outline at all.

Writing his first sentence, a coordinated complex sentence,
Kei stopped and separated it into two simple sentences because, he explained, he was "notorious" for writing long sentences and this "pattern" was recurring here.

Throughout the writing observed in the interview, Kei's attention was focussed primarily on the ideas he was attempting to convey and their relationships. He couldn't remember what current legislation was aimed at banning. He was concerned about one paragraph which appeared to contradict something he'd already written. He was afraid he was expressing a biased view at one point. At another, he didn't want to limit the content by referring to the Canadian Charter of Rights and Freedoms. He deliberated at great length over whether he should refer to the current examples of "The Last Temptation of Christ" or The Satanic Verses.

With 10 minutes remaining, Kei was working on the first sentence of his concluding paragraph and "trying to come up with the second sentence." He read his introduction to see if he "could find some nifty sentences" in order to continue. Before resuming his conclusion, he counted the lines in the paper and inserted a clause at one point because, he said, he felt the paper hadn't reached the 300-word minimum.

At this point, Kei said "I was kinda running low with ideas," and "I was also getting sort of scattered ideas on the topic." To resume his conclusion, he decided to "come up with the definition of censorship as (he) did in the first sentence," but, he said, "I thought there was no point in restating the topic sentence."
To solve his problem, Kei reordered the two sentences he had written to begin his conclusion, and quickly wrote a general statement about censorship, followed by the slogan "Down with Bill 11" which he then scratched out because he felt it was not consistent with the essay form.

With two minutes remaining, Kei read his paper from the beginning "looking for goofups in writing or just in case (he) might come up with some new ideas." He looked up a word in the dictionary and corrected the spelling for one of the two occurrences. Throughout the writing, he said, he had not been very concerned about grammar. "That sort of stuff I usually go over at the very end. That's why I started looking up in the dictionary for 'literature' at the very end."

**Situation 2**

In the interview following the examination situation, Kei said the camera hadn't bothered him, but that he had been more nervous than before until he saw the choice of topics which included one on which he had written three times before. For this reason, he said the writing was easier in the examination because he "remembered most of the things," and his writing had been better because "I knew what I was going to write on."

In the non-test situation, Kei said, "I sort of had a vague idea as to what I would write when I started writing the outline and I had less vague, but still vague, idea when I finished writing the essay itself."
Despite his claims regarding the ease of writing the examination paper, Kei behaved in much the same ways as he had in the non-test situation. He spent slightly more time in pre-writing activity, developing an elaborate outline, but this time, included a number of items he could remember from previous tasks involving the topic.

Again, throughout the writing, much of his attention was focussed on the ideas he was attempting to convey and their relationships. How could he incorporate a reference to "2001: A Space Odyssey (especially in view of the fact that his instructor had told him last time that this reference to fiction could not constitute a good example)? How could he connect the thesis statement with the following sentence? Was "wonder gimmick" better than "black box?" He fusses over a metaphor to create a parallel structure. "Silicon chip monster" sounded too much like "cookie monster," so he opted for "machine."

His lexical problems were limited to technical terms and expressive language. When dealing with the phrase "electronic gremlins," Kei pointed out: "Usually I like to play with words so these sorts of things pop into my mind quite fast." His other language-related problems were largely concerns about coming up with a succeeding sentence connected logically to the preceding one.

Having written nearly twice as many words as he had in the non-test paper, with 10 minutes remaining Kei appeared again to panic because he hadn't written his conclusion, but he got on with it after realizing he didn't need to "come up with new ideas"
in the conclusion sentence anyway."

Again he tagged his conclusion with a slogan, this time from "2001: A Space Odyssey," but this time he didn't delete it as he had in the non-test essay. "That's one quotation I always write down on this topic, no matter what," he said, "because it is sort of forecast about what's going to happen."

He then counted the lines he had written to assure himself that he had exceeded the minimum.

Summing up, Kei said he had been more efficient in the non-test paper because he finished on time. "In this one I was going overboard with the essay... I didn't have enough time to do the checking and those kind of stuff, so in that sense the last time was somewhat more efficient." Which paper did he feel better about? Emphatically, he said: "This one, this one, this one, because I knew what I was doing."

**Variation**

Despite his confidence, and its relative length, Kei's examination paper was poorer in quality than his non-test paper. He lost a far higher proportion of points for higher-level deficiencies than he did for the non-test paper indicating he attended to matters of lower importance in assessment than in the non-test situation.

The syntactic complexity of Kei's examination text was much greater than in his Text 1, perhaps because his familiarity with the topic enabled him to concentrate on syntactic relationships
to a greater extent.

In the inscribing periods sampled, he spent much more of his time in pauses greater than 10 seconds in length than he did in the non-test situation and many more of his pauses (33 per cent more) were greater than 60 seconds in length. Kei also spent 38 per cent more time in pauses of greater than 10 seconds long in the examination inscribing period sampled. Proportionately, far fewer (48 per cent) of Kei’s pauses during the inscribing period sampled from the examination were within phrases or clauses. Perhaps, the topic familiarity enabled him to construct entire syntactic units before inscribing them.

While the frequency of his cosmetic alterations changed little, the ratio of high- to low-level alterations in the inscribing period sampled decreased more for Kei in the examination than for any of the writers; that is, proportionately he made more low-level changes to his text in the examination. A greater portion of these changes resulted in improvements than in the non-test.

LIBA

Liba, a graduate student in counselling psychology, was highly interested in participating in the study because of her three experiences failing the ESL course final examination, twice when she had taken the course and once on appeal. She was certain her writing in an examination suffered from feelings of
stress. Her instructor assessed Liba to be very nervous but capable of producing acceptable writing. Her instructor would not predict whether she would pass or fail the examination, but indicated she would initiate an appeal if Liba failed again.

Liba's TOEFL score of 545 was below the university's usual admission requirements, but she was admitted because of her academic record and interests. She was quite fluent orally and English was the predominant language in her home in Vancouver. She reported a preference for writing in Czech and scored very low for apprehension about writing in her first language but scored higher than any of the other five subjects for apprehension about writing in English. Her scores for anxiety indicated she was slightly more anxious regarding the examination than she had been in the non-test situation.

Situation 1

Following the Situation 1 task, Liba said she was bothered only slightly by the video camera at the beginning of the task but that she soon forgot about the camera. She said she chose to write on the censorship topic because it was the most interesting and that she did not even consider other topics. She immediately wrote her title because this is her usual procedure. She spent 19 minutes in pre-writing, filling a page of notes. During the pre-writing, Liba said, her ideas came to her in English although sometimes, she said, "I catch myself thinking in Czech."

Liba's observations in the post-task interviews are a litany
of frustration with her performance. Watching her pre-writing activity on the video tape, Liba commented: "I had so many ideas, but I didn't know how to start. I am trying to put together the introduction, but I'm not sure about the whole paper."

Later, during her inscribing she observed, "at this point my thinking becomes incoherent and confused. I don't know if it's the time pressure. I'm trying to be clear, but I'm more and more confused. And so is my writing... I wasn't sure how I to continue because I wasn't satisfied from the beginning because it was stupid. I'm very aware of the content. It's stupid. I don't think I'm able to change it."

At about the midpoint of the task, she began to reconsider her choice of topic: "I was wondering why I didn't choose a different topic." At this point, observing herself sitting blankly, Liba said she was, in fact, doing nothing. "This often happens," she added.

Debating about the extent to which she should involve her personal experiences in her text, Liba said, "I know at this moment it's going to be a disaster." At this point, she said, "I am thinking I should begin differently from the beginning.

In the Situation 1 interview, Liba identified a number of writing strategies she employed. She brainstormed ideas during her pre-writing. She did not finish the notes for her introduction because she knew what she wanted to say. "I didn't finish because I had the sentence in my mind so I didn't have to write it now." Although she did no talking during the task, on
one occasion Liba said she was "making the sounds" in her mind. She frequently read the beginning of a sentence in order to continue, and when forming her final paragraph, she read the entire paper to assimilate ideas for the conclusion.

On several occasions, Liba exhibited a conscious knowledge of what she should do. She deliberated over a lexical choice because she knew her initial writing had resulted in an incomplete phrase. She was concerned about distinctions between the reader's experience and her own, and questioned the extent to which she should involve herself: "In this kind of writing you shouldn't write about yourself," she noted. Elsewhere, she agonized over a lexical choice because she wanted a "stronger" word. In writing her conclusion, she deliberated over alternate words to those in her introduction because she didn't want to be repetitious.

Liba's sense of what is appropriate led to frustration on an especially noteworthy occasion. Asserting that she shouldn't write about herself she became frustrated because "I was at the same moment thinking about my experience - my understanding of censorship - compared from the reader's understanding of censorship." Two current examples of censorship (public reactions to the release of the film "The Last Temptation of Christ" and the Iranian outburst over the publication of The Satanic Verses) occurred to her at this point, but she was unsure of the extent to which her perception of the current events were shared by the reader: "There's a difference between you as a reader and somebody else who's going to read this as an essay, so I want to
be understand what I'm talking about and at the same time I'm writing from my own experience and he's probably Canadian."

Rather than risk this misunderstanding, Liba abandoned these two excellent current examples of censorship.

Situation 2

In the Situation 2 interview, following the examination task, Liba's litany of frustration was considerably diminished. She said the topic choice was easy and that she knew what she would write from the outset. The other topics were "not interesting" and she wasn't sure that she understood them. She said the video camera bothered her less than in the first situation and that she was nervous, "but for other reasons" than the examination. She did not wish to elaborate on the "other reasons." She felt the quality of writing was better because she had known immediately how she would organize her essay and because leisure, the substance of the topic, was important to her. She felt she had been more efficient because she had had time to proofread her paper and she had used the dictionary more often.

Without making any pre-writing notes, Liba began her inscribing of Text 2 within three minutes of seeing the assignment sheet. During this period, she reported, "I'm thinking about the organization: I already know that it shouldn't be hard for me but I'm not sure in what direction I'm going to compare or analyze leisure time."
Despite her apparent optimism at the beginning, Liba soon fell to questioning the quality of her work and her ability to accomplish the task. She questioned whether two examples were enough and whether she should write "leisure time" or "free time." She wanted an alternate expression "because it's boring." She wanted to express a certain notion but she gave up because she "didn't know how to say that it was wonderful and exciting." She wasn't satisfied with a certain word - in fact with the whole sentence, "but I can't find some more interesting words," she complained. At one point, considering adding a clause to an extant sentence, Liba gave up, deleted the conjunction, and inserted a period. She explained: "I was thinking of a third (clause), but I tend to write and write and write and usually when I'm not careful I write and write and I'm forgetting about content, organization, about everything."

**Variation**

In spite of her relative comfort with the examination topic, Liba's Situation 2 text, for which 22 per cent more points were deducted for high-level deficiencies, was assessed to be of poorer quality than her non-test paper. The syntactic complexity of the examination paper was only marginally greater than the complexity of the non-test essay.

In the inscribing periods sampled, the frequency of pauses greater than 60 seconds long decreased greatly for the examination task, probably because, in this instance, Liba was writing
much more fluently on a topic which was important to her personally and about which she claimed she knew from the outset what she would write. The inscribing samples indicated that she spent less of her time in pauses and wrote at much faster rate (40 per cent) during the examination (in which she generated 60 per cent more words). The inscribing samples also indicated the locations of her pauses varied little.

Proportionately, the ratio of high- to low-level alterations Liba performed on extant text in the two situations varied little, according to the inscribing periods sampled, and there was likewise little variation in the proportion of these which were generative in nature. However, in the examination, far fewer (20 per cent fewer) of her alterations resulted in improvements to her text, according to the inscribing samples.