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Anxiety And Language Learning From A Stages Of Processing Perspective

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ANXIETY AND LANGUAGE LEARNING
FROM A STAGES OF PROCESSING PERSPECTIVE

by

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ABSTRACT

Language anxiety is the apprehension experienced when students are confronted with a situation involving use of limited second language skills. Previous studies have shown that anxiety specific to language learning situations is negatively associated with measures of second language achievement.

The three studies that make up this dissertation are concerned with providing answers to two main issues that have been raised in the literature on language anxiety. The first concerns the relation of language anxiety to various indices of attitudes and motivation that have been implicated in second language learning. The results of Study 1 support the conclusion that language anxiety is distinct from attitudes and motivation. Further analyses show that language anxiety is significantly negatively correlated with second language performance measures that rely on a broad base of language skills (e.g. course grades) and relatively specific tasks as well (e.g. vocabulary recall).

The second issue concerns the more specific cognitive effects of language anxiety. In order to examine effects of language anxiety on the cognitive activities that underlie language learning, a model of the effects of anxiety on learning from instruction (Tobias, 1986) is used in two additional studies. The model separates language learning into three overlapping stages, concerned with the exposure (Input stage), comprehension (Processing stage), and production of the second language (Output stage). Study 2 employs scales designed to measure anxiety at each of the three stages separately. Results show that anxiety at each of the stages of processing is correlated with performance at that stage. Study 3 attempted to induce anxiety at each of the stages using a video camera. Results showed that when the camera was associated with increased anxiety, performance at all three stages was impaired, but when the camera failed to arouse anxiety, performance was not impaired. Results are discussed in terms of their implication for the

conceptualization of language anxiety, its measurement, and potential actions to remedy its negative effects.

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DEDICATION

I would like to dedicate this work to my family, my wife Anne, daughter Valerie, and my son Robert who help me keep my perspective and to my parents for giving me a perspective worth keeping.

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CHAPTER 1

Introduction

It is unquestioned that individuals differ in their ability to acquire a second language. In addition to intelligence, language aptitude, motivation, and attitudes, anxiety has been proposed as one of the sources of these individual differences. The term "language anxiety" has been coined to refer to the anxiety experienced in second language learning situations. It can be considered as a form of "social anxiety" because language learning is highly dependent upon interaction with other persons. Social anxiety is defined by "(1) feelings of tension and discomfort, (2) negative self-evaluations, and (3) a tendency to withdraw in the presence of others" (Schwarzer, 1986, p. 1). Most theorists seem to agree that all forms of anxiety share similar cognitive, affective, and behavioral components (Sarason, 1986; Spielberger, 1983; Levitt, 1980; Whitmore, 1987).

While language anxiety shares the characteristics of other anxieties, it should not be considered as the simple transfer of social anxiety to second language contexts. Horwitz, Horwitz, and Cope (1986) consider language anxiety to be "... a distinct complex of self-perceptions, beliefs, feelings, and behaviours related to classroom language learning arising from the uniqueness of the language learning process" (p. 128). Although this definition refers specifically to language learning in a classroom setting, language anxiety certainly arises in less formal situations as well (Clément, 1980; 1987).

Language anxiety is a negative, aversive experience for the student (Cohen & Norst, 1989; Price, 1991) that has a detrimental impact on second language achievement. It can impair the acquisition, retention, and production of the target language (MacIntyre & Gardner, 1991a), participation in language classroom activities (Ely, 1986), scores on proficiency tests (Young, 1986), and course grades (Gardner,

Smythe, Clément, & Gliksman, 1976; Horwitz, 1986; MacIntyre & Gardner, in press).

Language anxiety has an effect on more than the students who experience it. Language teachers have long been concerned about the effects of anxiety in their classrooms. Compensating for the effects of language anxiety can consume time and resources, leading to concern on the part of program administrators as well (Scovel, 1978; Cope-Powell, 1991).

Despite the experiences of students, teachers and administrators, early empirical studies were "... unable to establish a clear picture of how anxiety affects language learning and performance" (Horwitz & Young, 1991a, p. xiii). A review of the sparse literature on the role of anxiety in language learning, done in 1978, pointed to "mixed and confusing" results (Scovel, 1978, p. 132). Some of the problems with these studies may be traced back to the approach taken to anxiety research in the second language context (Horwitz et al., 1986; MacIntyre & Gardner, 1989).

Research Perspectives on Anxiety

There have been a large number of ways in which anxiety has been studied over the years (Whitmore, 1987; Fischer, 1988). The majority of empirical research into language anxiety in particular has made use of three of these ways to conceptualize anxiety, identified as the trait, state, and situation-specific perspectives. These three approaches to anxiety research address themselves to different types of research questions. The differences among the approaches may have led to some of the difficulties encountered by earlier studies of language anxiety. These perspectives provide part of the framework that can be used to view the manner in which language anxiety is currently researched.

Trait Anxiety

The trait approach to anxiety research examines individual differences in anxiety as a stable personality trait applicable to various situations across time. Trait anxiety has been defined as a stable predisposition to become anxious in a cross-section of situations (Spielberger, 1983). The type of situation to which trait anxiety refers usually involves ego-threat rather than other types of threatening situations, such as those involving physical danger (Endler, Edwards, Vitelli, & Parker, 1988).

State Anxiety

Parallel to this perspective is a state anxiety approach that examines the momentary experience of anxiety as an emotional reaction to the current situation alone (Cattell & Scheier, 1963). State anxiety is assumed to be a transitory experience while trait anxiety refers to the probability of experiencing state anxiety (Spielberger, 1983). Whereas trait anxiety cuts across situations over time, state anxiety is limited to a given situation and a given time. Eysenck (1979) notes that the distinction between state and trait anxiety was originally proposed by the ancient Greek orator Cicero and has developed into one of the key distinctions in anxiety research.

Situation-Specific Anxiety

Between these end points is an approach to anxiety research that can be described as situation-specific (Endler, 1980). The focus here is limited to a particular situation that reliably gives rise to the experience of anxiety over time. Situation-specific anxiety can be considered to be the probability of becoming anxious in a particular type of situation. Perhaps the two best examples of this perspective are the literatures on test anxiety (see Sarason, 1980; 1986) and communication apprehension (see McCroskey, 1977; 1984). Both have

fairly well defined domains of applicability, and a considerable amount of research has been done in both areas.

Language anxiety can be viewed as a situation-specific construct. It is assumed to be stable over time and to arise in reasonably clearly defined contexts. As Gardner (1985) states, "... the conclusion seems warranted that a construct of anxiety which is not general but instead is specific to the language acquisition context is related to second language achievement" (p. 34). If an individual is involved in a situation demanding skill in the second language, then language anxiety represents the probability that an individual will become apprehensive in that context.

The Nature of Anxiety

The arousal of anxiety in any given situation can have cognitive, affective, and behavioral effects (Endler, 1980; Whitmore, 1987). Among the cognitive effects are increases in distracting self-related cognitions and a decrease in cognitive processing ability (Wine, 1980). The affective experience of anxiety includes feelings of apprehension, uneasiness, and fear (Whitmore, 1987). The behavioral dimension includes visceral reactions such as increases in sympathetic nervous system arousal and overt actions such as escaping the situation (Levitt, 1980). Anxiety arousal may generate reactions in one or all of these dimensions simultaneously (Schwarzer, 1986).

Within the current zeitgeist of psychology, interest in the effects of anxiety seems to focus on the cognitive dimension (Tobias, 1986). This component of anxiety has received considerable research attention and has shown the strongest correlations with task performance (Holroyd & Appel, 1980). As Sarason (1986) suggests, this is not sufficient reason to ignore the emotional and behavioral aspects of anxiety altogether in favour of a purely cognitive explanation of anxiety. It is sufficient reason, however, to isolate the cognitive

component for study in its own right as part of the broad spectrum of anxiety research.

Anxiety from a Cognitive Perspective

The distinction between the cognitive and affective components of anxiety were identified by Liebert and Morris (1967) as "worry" and "emotionality" respectively. Sarason (1986) defines worry as "... distressing preoccupations and concerns about impending events" (p. 21). This preoccupation often takes the form of self-related cognition which is seldom relevant to task performance. Eysenck (1979) theorized that

> ... worry and other task-irrelevant cognitive activities associated with anxiety always impair the quality of performance. The major reason for this is that the task-irrelevant information involved in worry and cognitive self-concern competes with task-relevant information for space in the processing system. As a result, highly anxious subjects are effectively in a dual-task or divided-attention situation, in contrast to the non-anxious subjects who primarily process task-relevant information (p. 364).

This account explains the negative effects of anxiety on performance during cognitive tasks without reference to the emotionality component. Much of the research on anxiety acknowledges a concomitant increase in emotional and physiological arousal. In spite of the recognition given to the emotional and physiological aspects of the anxiety reaction, self-related cognition has become the preferred explanation for the effects of anxiety on task performance.

Whereas distractions caused by self-related cognitions can explain the negative effects of anxiety on cognitive activity, it has been suggested that the effects of anxiety are not necessarily negative, that is, anxiety may also facilitate performance (Alpert & Haber, 1960). To address this possibility, Eysenck (1979) further suggests that anxious individuals will compensate for the increased cognitive demands by

increased effort, and that "... the extent to which anxiety either facilitates or impairs performance is determined by the extent to which high-anxiety subjects compensate for reduced processing effectiveness by enhanced effort" (p. 365). Thus, the arousal of anxiety can influence both the quality of performance (processing effectiveness) and the effort invested in it (processing efficiency). Eysenck (1979) suggests that much of the research into the effects of anxiety seems to assume that effort expenditure is relatively constant, preferring to examine its effects on the quality of performance.

Eysenck's theory is able to account for the often cited interaction between anxiety and ability (for example, see Spielberger, 1966; Hunsley, 1985), sometimes expressed as the Yerkes-Dodson Law (Smith, Sarason, & Sarason, 1982). To the extent that a given task is relatively simple, anxiety seems to have little negative effect and may actually improve performance through increased effort. However, as the demands on the system increase, the increased effort may not fully compensate, and anxiety will begin to have a negative effect. Those who do not experience anxiety will be able to process the information more efficiently and/or effectively than those who are distracted by their self-related cognitions. Eysenck (1979) suggests that one should not make the assumption that the expenditure of effort will remain constant at various levels of anxiety. Thus, it is preferable to consider both processing effectiveness and processing efficiency.

The interaction of effectiveness and efficiency allows for the possibility that, under certain conditions, anxiety may positively influence performance. In the literature on language anxiety, Scovel (1978) has suggested that anxiety may either facilitate or impair performance in the second language, depending on the amount of anxiety experienced. Although this position is consistent with the cognitive perspective, facilitating effects of language anxiety are rarely obtained (MacIntyre & Gardner, 1991a). The anxiety experience, as

described in the literature on language anxiety, is almost always characterized as a negative one (see Horwitz & Young, 1991b).

The focus of this discussion of the cognitive effects of anxiety has been on the manner in which anxiety may cause deficits in cognitive processing and impair task performance. It should also be recognized that task performance can provoke anxiety. In the language anxiety area, for example, Young (1986) asks "... is it anxiety which causes low levels of proficiency ... or do low levels of proficiency result in higher levels of anxiety?" (p. 447). The answer to Young's question appears to be that anxiety and performance relate to each other in a cyclical fashion and that reciprocal causation may be the most defensible model (Levitt, 1980).

It can be recognized that several tasks performed in the second language are anxiety-provoking (see Koch & Terrell, 1991) and that this anxiety, once aroused, can have a negative influence on subsequent task performance. Most often in the literature, language anxiety is treated as a stable personality trait rather than as a reaction to a given situation or as a form of state anxiety (MacIntyre & Gardner, 1991a). This has led investigators to focus on the effects of anxiety on second language achievement, rather than on the sources of language anxiety arousal.

The Nature of Language Anxiety

Language learning contexts are particularly prone to anxiety-arousal (Price, 1991). For many students, language courses are the most anxiety-provoking ones that they take (Horwitz et al. 1986; MacIntyre & Gardner, 1989, 1991b) and several authors have expressed concern over the amount of anxiety present in language classes (Muchnick & Wolfe, 1982; Cope-Powell, 1991). Campbell and Ortiz (1991) consider the levels of language anxiety among university students to be "alarming" (p. 159)

and estimate that up to one half of all language students experience debilitating levels of language anxiety.

The reasons for such high levels of anxiety in this situation are multifaceted. Language learning is an intensive, difficult cognitive task. Learning is made more difficult by comprehension problems that are usually not present to the same extent in the native language (Foss & Reitzel, 1988). Language learning simultaneously involves the learning and performance of communication tasks (Madsen, Brown, & Jones, 1991). The perception of poor self-presentation can lead to anxiety in social situations (Carver & Scheier, 1986), particularly when the communicator is working with incomplete language skills (Foss & Reitzel, 1988; Horwitz et al., 1986). Finally, the arousal of anxiety by poor language performance may lead to cognitive interference and result in further performance problems, creating a vicious cycle for the apprehensive language learner (see Daly, 1991).

MacIntyre & Gardner (1989) have suggested that these types of negative experiences lead to the development of language anxiety. They propose that negative experiences in the language learning context generate state anxiety. For some students, state anxiety is a frequent experience that becomes reliably associated with situations involving the second language. When a student expects to perform poorly in those situations, he/she experiences language anxiety. If the student continues with language learning, language anxiety may be reduced if the expectation of positive experiences supplants the anticipation of negative ones. While MacIntyre & Gardner's (1989) hypotheses have not been fully tested, this model is consistent with the results obtained from empirical analyses (Gardner, Lalonde, Moorcroft, and Evers, 1987; MacIntyre & Gardner, 1991c) and qualitative studies (Price, 1991). This model also captures the reciprocal nature of the relation between anxiety and task performance.

Three Components of Anxiety in the Language Classroom

An influential model of the structure of language anxiety, as it occurs in language classrooms, has been offered by Horwitz et al. (1986). This theory draws upon both the experiences reported by anxious language students and theoretical discussions of other situation-specific anxieties. In conjunction with the theoretical discussion, Horwitz et al. (1986) developed a scale to measure anxiety reactions in the language classroom, the Foreign Language Classroom Anxiety Scale.

Horwitz et al. (1986) propose that language anxiety has a three-part conceptual foundation, involving communication apprehension, test anxiety, and fear of negative social evaluation. These three types of apprehension arise from slightly different aspects of language learning in the classroom setting. Horwitz et al. state that language anxiety is more than the sum of these parts and that these three conceptual foundations are useful in demonstrating the number of sources from which anxiety may arise.

The first component of the model is a specific form of communication apprehension related to second language contexts. This apprehension may or may not be associated with the speech anxiety experienced in first language contexts (Daly, 1991; Lucas, 1984). Frustrated communication is unavoidable while learning a second language and some students react to this frustration with apprehension. Language students are less able to express themselves in the second language and this may reflect negatively on their self-concept. Self-expression has been seen as an important element in the development of an individual's self-concept and the perception of poor self-expression can lead to additional negative reactions (Fischer, 1988; Schlenker & Leary, 1985).

The second component of the Horwitz et al. model is test anxiety, which may or may not be specific to the language classroom. Worry over tests and examinations may be found in any course but language courses usually involve more frequent oral evaluation. With such tests, the

possibility exists for a "double dose" of anxiety, that related to the testing itself and that related to the oral nature of the test, although this is not the case for all students (Madsen, Brown, & Jones, 1991).

Fear of negative evaluation (Watson & Friend, 1969) is the third component of language anxiety. Evaluation occurs at both the academic and personal levels in a language class. As noted above, it may be the more personal nature of language classes that produces the relatively high levels of anxiety. A close association between the ability to communicate and self esteem (Horwitz et al., 1986) as well as the student's anxiety over being humiliated by inadequate speech (Cohen & Norst, 1989) can give rise to an apprehensive student.

This model has received some support from a construct validation study. Horwitz (1986) compiled the data from a number of separate, unpublished studies that studied the relation of the three components of the model and anxiety in the foreign language class. Horwitz reports significant correlations of the Foreign Language Classroom Anxiety Scale with trait anxiety ($r\ (108) = .29$, $p < .05$), test anxiety ($r\ (60) = .53$, $p < .001$), and fear of negative evaluation ($r\ (56) = .36$, $p < .01$), while the correlation with communication apprehension approached significance ($r\ (44) = .28$, $p < .07$). These results suggest that anxiety in the foreign language classroom may be related to these other types of anxiety, with the strongest correlation involving the test anxiety component.

It may be somewhat difficult to make clear the distinctions drawn between these three elements. Communication apprehension and fear of negative evaluation are extremely similar conceptually and one study has shown them to contribute to the same factor (MacIntyre and Gardner, 1991b). Communication apprehension may also be involved with the test anxiety component when tests are given orally. Finally, test anxiety may reflect the fear of negative evaluation, especially in the case of oral testing where academic and social evaluation may be performed at

the same time. These conceptual similarities likely arise because each of these constructs was borrowed from other situation-specific research traditions and their measurement was not developed to be mutually exclusive. Horwitz et al. state that language anxiety is more than the sum of these parts. Therefore, these associated constructs should be considered as descriptive.

Language Anxiety and Second Language Proficiency

Studies of language anxiety have used a variety of data analytic procedures to assess the relation between language anxiety and second language achievement. In addition, a wide range of indices of second language proficiency have been employed. Several studies have revealed a consistent, negative relationship between language anxiety and proficiency in second language tasks.

Factor analysis is one of the more widely used procedures in studying individual differences in language achievement. In one of the most extensive studies performed on the topic, Gardner, Smythe, and Lalonde (1984) analyzed the effects of attitudes, motivation, aptitude and anxiety on second language achievement among students in grades 7 through 11 in seven regions of Canada. In general, the factor patterns were stable across the different regions. The language anxiety measure, French Class anxiety, consistently loaded on a factor defined by self-rated French proficiency and/or actual French proficiency. Language anxiety is, therefore, associated with both the perception of competence in the second language and objective measures of competence as well.

Other factor analytic studies have reached similar conclusions. Clément, Major, Gardner & Smythe (1977), working with English as a second language, obtained a factor defined by a lack of English class anxiety and English use anxiety, use of English outside the classroom, positive teacher ratings, and positive course evaluations. Two studies by Clément, Gardner, & Smythe (1977; 1980) found that measures of

language anxiety appeared on the same factor as both subjective and objective measures of second language proficiency. Also, achievement was shown to be generally unrelated to other measures of anxiety. These studies have consistently obtained a factor linking lower levels of anxiety with higher levels of proficiency.

Studies using similar sets of variables (but not using factor analysis) have shown comparable results. Trylong (1987) found that anxiety was negatively correlated with attitudes and achievement in foreign language classes among first year university students. Also, the author reports a regression analysis in which French class anxiety significantly improved the prediction of achievement over that provided by aptitude, attitudes, and motivation. Gardner, Lalonde, Moorcroft, and Evers (1987) found consistent negative correlations between anxiety and standardized proficiency measures taken at the end of grade 12 and the beginning of grade 13 French courses. In a study of Canadian children in grades 7 through 11, Gardner, Smythe, Clément and Gliksman (1976) showed that, as the grade level increased, language anxiety became a better predictor of achievement. Finally, Young (1986) found significant negative correlations between state anxiety, language anxiety, and self-reported anxiety with an oral proficiency test given to prospective language teachers.

The correlation of language anxiety with language course grades also has been examined. Chastain (1975) found nonsignificant correlations between two anxiety scales and grades in both a German and a French course, a negative correlation between test anxiety and grades in another French course, and finally a positive correlation between test anxiety and grades in a Spanish course. This study, unlike most of the ones reviewed here, did not employ a situation-specific measure of language anxiety. Horwitz (1986), on the other hand, reports a significant correlation between the Foreign Language Classroom Anxiety Scale and grades in Spanish. Neither test anxiety nor trait anxiety

correlated with final grades in that study, supporting the validity of the language anxiety construct.

Horwitz et al. (1986) stress that, in addition to global measures of proficiency, such as course grades, research should also examine the more subtle effects of anxiety on specific language learning and performance. One such effect was investigated in a study by Steinberg and Horwitz (1986). The authors asked language students to describe an ambiguous scene (TAT pictures) in the foreign language. They found that students who were made to feel anxious were significantly less interpretive in their comments than the students who were made to feel relaxed. An unwillingness to volunteer answers in the language classroom may be another of the subtle effects of anxiety (Ely, 1986; Tucker, Hamayan, & Genesee, 1976).

Specific effects of language anxiety have also been examined in laboratory analog studies that examine language learning in a highly controlled environment. Gardner, Moorcroft, and MacIntyre (1987) investigated the effect of anxiety in French class, French use, interpersonal, trait/state, and testing situations on two oral production measures. In order to control for ability, the number of years that the subject had been studying French was partialled out of the anxiety-proficiency correlations. The results showed that only French Class Anxiety, French Use Anxiety, and two measures of interpersonal anxiety were significantly, negatively correlated with scores on the word production task, after controlling for prior French study. Conversely, none of the correlations between anxiety and scores for free speech quality were significant. Gardner et al. (1987) attribute the significant correlations to relevant elements of the experimental situation, interpersonal and French, that produced the correlations with the word production measures. They argue that the null results with the free speech measure may be due to the students'

ability to structure the task according to their level of expertise, thereby coping with the anxiety that the task might arouse.

In a later study, MacIntyre and Gardner (1989) performed a two stage analysis involving eleven anxiety scales. First a number of anxiety scales were factor analyzed. The two factors that emerged were labelled as General Anxiety and Communicative Anxiety. The General Anxiety factor was defined by scales of trait, state, test, and computer anxiety. The Communicative Anxiety dimension was defined by scales of French class, French use, audience and English class anxiety. When these two factors were used to predict scores on learning and recall tasks, only the Communicative Anxiety factor scores showed the expected correlation. Those high in Communicative Anxiety learned fewer vocabulary items, recalled fewer of those items a short time later, and produced fewer responses (both written and oral) to questions requiring the naming of elements of categories. Further analyses suggested that the French-related anxiety scales that loaded on the Communicative Anxiety dimension were responsible for the observed correlations.

A subsequent investigation (MacIntyre & Gardner, 1991b) identified three dimensions of anxiety in a study that employed 23 different anxiety measures and tests for memory for numbers and vocabulary recall in both English and French. A factor analysis found a General Anxiety dimension defined by communication apprehension and scales of trait anxiety, among others, that can be described as related to ego-threat anxiety. A second factor was identified as State Anxiety measured at three different times in the study. The third factor received loadings from French class, French use, and two forms of French test anxiety and was labelled Language Anxiety. Analysis of the correlations between scales based on these factors and French performance measures showed that only Language Anxiety was correlated with proficiency in French, supporting the predictive validity of the language anxiety construct.

Data from this study also were examined to address the relations among the three components suggested by Horwitz et al. Scales representing language anxiety, test anxiety, communication apprehension, and fear of negative evaluation were used in addition to several measures of trait anxiety. The trait anxiety, communication apprehension, test anxiety, and fear of negative evaluation scales loaded highly on the same factor, supporting the hypothesis that they measure very similar anxieties. The test anxiety scale, however, loaded on the Language Anxiety factor as well. This loading was attributed to a communality among the three measures of test anxiety, two of which referred specifically to French tests. Other than this loading, no evidence was found for a link between the Language Anxiety and General Anxiety factors. This suggests that language anxiety is a relatively unique form of anxiety. The results suggest that the native language versions of Horwitz et al.'s (1986) three components of language anxiety may not be strongly related to language anxiety.

From the studies reviewed in this section, it seems reasonable to conclude that language anxiety is a construct that can be distinguished reliably from other types of anxiety. Studies of their differential effects have shown language anxiety to be related to language performance, achievement, and activity while other forms of anxiety tend not to be so related. Consistently, language anxiety has been associated with measures of second language performance, both self-rated and objectively measured. Language anxiety also has been related to classroom participation, risktaking, communicative content, interaction with speakers of the target language, and course grades.

The agreement among the various methods discussed above, for classroom studies, for laboratory studies, for the various samples, and for the variety of languages examined, lends confidence to the conclusions common to those investigations. Nonetheless, despite the

significant progress that has been made, several issues remain to be addressed.

Unresolved Issues

There are two main issues, arising from the literature on language anxiety, that will be addressed by the studies described below. The first issue is the relation between language anxiety and other individual difference variables, such as attitudes and motivation. The second issue concerns the relation of language anxiety to various forms of second language proficiency.

Scovel (1978) noted that "... before we begin to measure anxiety, we must become more cognizant of the intricate hierarchy of learner variables that intervene ..." (p. 140) in the language learning process. How language anxiety relates to constructs such as attitudes and motivation remains an issue. A number of studies have been conducted that include these variables and their conclusions have been somewhat inconsistent with respect to language anxiety. It would be useful to determine the extent to which language anxiety is independent of other learner variables relevant to second language learning, both in terms of language education and research into learner variables influencing second language proficiency.

The second issue relates to the manner in which language anxiety exerts its influence on proficiency; "Exactly how anxiety impedes language learning has not been resolved." (Horwitz & Young, 1991a, p. 177). This issue may be more complex than has been implied in the existing literature. The majority of studies to date have examined broad-based proficiency measures, such as course grades. Although these studies have demonstrated a negative correlation between language anxiety and the final outcome of language courses, they do not address the underlying mechanisms by which this effect arises. It is possible that this correlation is based on language production alone, as might

result from test anxiety. It is likely, however, that language anxiety operates on encoding and storage processes as well. If this were the case, then language anxiety would be associated with a restricted base of knowledge. Further, it would suggest that future learning would be impaired to the extent that anxiety is aroused in the language learning context. In essence, the issue is: does language anxiety primarily influence second language production or does it create basic deficits in learning as well?

If basic learning deficits are created by language anxiety then the conceptualization, measurement, and remedy for language anxiety should reflect this. At present, the conceptualization of language anxiety does not explicitly refer to apprehension about learning the language; the focus is primarily on the use of the language. Models of language anxiety, such as the one developed by Horwitz et al. (1986) might include a component reflecting anxiety about misunderstanding the second language.

Currently, the measurement of language anxiety also reflects the focus on language use. Anxiety arousal during the encoding and storage processes could be measured explicitly by scales similar to those already being used. The resulting variables would be examples of situation-specific language anxiety scales. In this case, the situation would be defined as a component of the language learning process.

Finally, if anxiety creates learning deficits then it follows that remedial action for language anxiety should address this deficiency. At present the literature does not make such provisions. The implication of such results would be that attempts to reduce language anxiety may require some skills training as a supplement to the anxiety reduction in order to compensate for any deficiencies created by anxiety arousal.

The studies described below attempt to locate language anxiety among other learner variables and describe the specific types of processes that it may affect. As with much of the previous literature,

the emphasis will be on the possible effects of language anxiety on second language performance.

CHAPTER 2

Introduction to Study 1

There are three primary issues addressed by this study. First, following the suggestion of Scovel (1978), the relation of language anxiety to other learner variables will be examined with reference to comprehensive models of second language learning that include several relevant constructs. The second issue concerns the relation of language anxiety to objective measures of language performance on broad-based variables and specific tasks. The third issue arises from a comparison of two of these models and concerns the relation between language anxiety and subjective measures of proficiency.

Language anxiety is one of several variables shown to affect second language acquisition. Other variables, such as attitudes, motivation, aptitude, and the like have also been shown to influence second language achievement. These constructs have been gathered together in large-scale, comprehensive models designed to account for individual differences in language learning (e.g. Clément, 1980; Gardner, 1985; Spolsky, 1985, 1989). These models are useful for categorizing and summarizing research into those variables.

One such model that assigns a prominent role for language anxiety was offered by Clément (1980, 1987). Portions of this model may be examined in order to illustrate some of the properties of language anxiety. Within Clément's model, language anxiety and self-ratings of second language proficiency are combined to define a construct identified as self-confidence with the second language (Clément & Krudenier, 1985). Self-confidence is considered to be a key source of motivation for language use in bilingual settings and has been labelled as the "secondary motivational process" (Clément, 1980). This type of motivation is seen as emerging from the frequency and type of contact with native speakers of the target language. It follows, therefore, that higher levels of language anxiety would reduce the self-confidence

of the language learner and would be expected to lead to reduced proficiency in the second language (see Clément, Gardner, & Smythe, 1977, 1980; Gardner, Smythe, & Lalonde, 1984).

Although Clément's model includes language anxiety (as it contributes to the self-confidence construct), self-confidence should not be interpreted as merely the absence of language anxiety. Within the model its effects are confounded with the self-ratings of proficiency. For this reason, the relation between self-confidence and second language achievement may be due to the influence of one variable or the other. The effects of language anxiety on achievement cannot be isolated within Clément's model.

Perhaps the most influential model of second language learning has been Gardner's (1985) Socio-Educational Model (Skeehan, 1991). This model describes the effects of the cultural milieu, attitudes, motivation, and language acquisition contexts on the outcomes of the language learning process.

The central concept in this model is the Integrative Motive. Gardner (1985) has described this motive "as comprising the tripartite division of integrativeness, attitudes toward the learning situation, and motivation" (p. 153). Integrativeness refers to the degree to which language learning is driven by the goal of interacting and communicating with members of the target language group. Attitudes toward the learning situation refer to the student's evaluation of the language learning context, usually represented by ratings of the language teacher and the language course. Both integrativeness and attitudes toward the learning situation are found to contribute to a student's level of motivation, as indicated by the student's desire and willingness to work at learning the language.

Gardner (1985) argues that integrativeness, attitudes toward the learning situation, and motivation are correlated factors that can be differentiated from each other. Each of the three classes of variables

is expected to correlate with proficiency in the second language, though motivation would tend to be the primary correlate of achievement.

Whereas motivation has been well established as an important factor in Gardner's socio-educational model, the role of language anxiety in that model has not been firmly articulated. Some investigations of the socio-educational model have presented language anxiety as a direct cause of second language proficiency (Gardner, MacIntyre, & Lysynchuk, 1990; Lalonde & Gardner, 1984). Other studies have identified language anxiety as a separate factor, although the final model described in those studies did not support a direct link between anxiety and achievement (Gardner & Lysynchuk, 1990; Gardner, Smythe, & Clément, 1979). Finally, some studies have not incorporated language anxiety into the model (Gardner, 1983; Gardner, Lalonde, Moorcroft, & Evers, 1987).

There may be several reasons for the inconsistent pattern of results pertaining to anxiety in the socio-educational model, such as differences in subjects' grade levels, location, and cultural setting. Another potential reason for these results is the inclusion of only one or two measures of language anxiety in the factor analyses and causal models (MacIntyre & Gardner, 1991a). McDonald (1985) notes that single measures of a factor tend to produce results that are difficult to interpret and recommends at least three measures of any factor or latent variable. It is therefore advisable for studies of these models that include anxiety to employ three or more measures of language anxiety.

One manner in which multiple measurements of the same construct can be obtained is to employ different measurement procedures for the same construct (variable). Gardner's (1985) Attitude/Motivation Test Battery makes use of Likert, semantic differential, and multiple choice formats, depending on the variable under consideration. It should be possible to develop several measures of each variable using different assessment procedures in order to increase the stability of the

measurement and to gauge the validity of the constructs, as in a multitrait/multimethod approach (Campbell & Fiske, 1959). This approach was taken by Gardner, Lalonde, and Moorcroft (1985) who employed standard measurement procedures along with single-item measures of the variables included in the socio-educational model. Their results supported the validity of the constructs contained in the socio-educational model.

In terms of the measurement of language anxiety, Gardner (1985) has provided two scales: French Class Anxiety and French Use Anxiety. Development of three techniques to measure both French Class and French Use Anxiety will provide six measures of language anxiety. Horwitz et al. (1986) have proposed an additional scale, the FLCAS (Foreign Language Classroom Anxiety Scale) that also will be used in the present study, for a total of seven measures of language anxiety. This should provide stable measurement of the language anxiety construct and allow for a more accurate assessment of the factor structure underlying the variables of the socio-educational model.

The multiple measures of language anxiety provide an opportunity to determine the extent to which a correlation exists between the two classes of variables, anxiety and proficiency. Several studies have already reported significant zero-order correlations between language anxiety scales and several different second language performance measures (see MacIntyre & Gardner, 1991a, for a review), but the present study will go beyond these. Canonical correlation analysis will be used to determine if there are different dimensions of second language achievement associated with different dimensions of language anxiety. If more than one significant canonical correlation is found, they might help clarify the role played by anxiety in language learning. A single significant canonical correlation would suggest that language anxiety has a consistent effect on the various second language variables employed in this study.

In addition to examining the relation of language anxiety to objective measures of proficiency, it is also useful to investigate its relation to subjective ratings of proficiency. This is a key difference between the models offered by Gardner (1985) and Clément (1987). In Gardner's socio-educational model, language anxiety is presented as a separate individual difference variable. In Clément's model, however, anxiety is combined with self-ratings of proficiency to create another variable, self-confidence. The relation between language anxiety and self-ratings of proficiency is therefore an issue that should be examined.

Three main issues will be addressed in this study. First, the relations among language anxiety and the variables of Gardner's (1985) Integrative motive will be examined using factor analysis. Second, the extent to which dimensions underlying multiple measures of language anxiety correlate with objective French proficiency will be examined using a canonical correlation analysis. The third issue to be considered is the extent to which dimensions underlying language anxiety and self-ratings of second language proficiency correlate with each other.

Method

Subjects

Ninety-eight students of university introductory French courses were tested. Subjects were recruited from their French classes and were paid ten dollars and one lottery ticket for their participation in this study.

Materials

Three types of materials were used for this study, measures of learner variables (attitudes, motivation, and anxiety), objective

measures of French proficiency, and subjective measures of French proficiency.

Learner Variables

The variables presented below (with the exception of the Foreign Language Classroom Anxiety Scale) comprise the Attitude/Motivation Test Battery that has been used in studies of Gardner's (1985) socio-educational model. These variables have been used in numerous studies and have shown strong reliability and validity coefficients (Gardner, 1985; Gardner, Lalonde, & Moorcroft, 1985; Gardner, Smythe, & Lalonde, 1984; Lalonde & Gardner, 1984). In general, three forms of measurement were used for each of the variables listed below, Likert (1932), Semantic Differential (Osgood, Suci & Tannenbaum, 1957), and single-item Guilford (1954) versions. The variable names will be given the extensions "-L", "-S", and "-G" respectively to indicate measurement format. Unless otherwise indicated, the Likert versions of the variables were comprised of five positively keyed and five negatively keyed items. The Semantic Differential ratings were based on responses to one of several concepts (for example "My Language Course" or "My Language Instructor") and each measure using this format is based on ten pairs of bipolar adjectives. The Guilford measures make use of one item, rated on a seven-point scale, for each variable. The exceptions to this pattern are for the Integrative and Instrumental Orientation variables.

Table 1 shows the full and abbreviated names of each scale along with their reliability coefficients. In the present study, the lowest single reliability coefficient (α) is .62, the highest alpha is .95, and the median alpha is .88. These reliability coefficients are comparable to those obtained in the previous studies cited above. The items for each of the measures are presented in Appendix A along with a scoring key.

Table 1

Learner variables and their Reliabilities

Abbrev.	Name	Alpha
AFC-L	Attitudes toward French Canadians.	.82
AFC-S	Attitudes toward French Canadians.	.91
AFC-G	Attitudes toward French Canadians.	--
IFL-L	Interest in Foreign Languages.	.70
IFL-S	Interest in Foreign Languages.	.88
IFL-G	Interest in Foreign Languages.	--
MI-L	Motivational Intensity.	.74
MI-S	Motivational Intensity.	.94
MI-G	Motivational Intensity.	--
MI-M	Motivational Intensity.	.62
DES-L	Desire to Learn French.	.79
DES-M	Desire to Learn French.	.64
DES-G	Desire to Learn French.	--
ALF-L	Attitudes toward Learning French.	.87
ALF-S	Attitudes toward Learning French.	.93
ALF-G	Attitudes toward Learning French.	--
FCE-L	French Course Evaluation.	.90
FCE-S	French Course Evaluation.	.94
FCE-G	French Course Evaluation.	--
FTE-L	French Teacher Evaluation.	.95
FTE-S	French Teacher Evaluation.	.91
FTE-G	French Teacher Evaluation.	--
FUA-L	French Use Anxiety.	.88
FUA-S	French Use Anxiety.	.91
FUA-G	French Use Anxiety.	--
FCA-L	French Class Anxiety.	.89
FCA-S	French Class Anxiety.	.91
FCA-G	French Class Anxiety.	--
FLCAS	Foreign Language Classroom Anxiety.	.94
INT-L	Integrative Orientation.	.76
INT-G	Integrative Orientation.	--
INTEX	Integrative Orientation.	--
JNST-G	Instrumental Orientation.	--
INST-L	Instrumental Orientation.	.68
INST-S	Instrumental Orientation.	.84

Attitudes toward French Canadians. This variable reflected the respondents' opinions about French Canadians.

Interest in Foreign Languages. This variable reflected the extent to which students were interested in learning and using any second language.

Motivational Intensity. This variable referred to the amount of effort expended to learn French. A fourth measure of motivational intensity was obtained using a multiple choice format and will be denoted "MI-M."

Desire to Learn French. This variable assessed how much the students wanted to learn French.

Attitudes toward Learning French. This variable referred to the students' opinions about learning French in particular.

French Course Evaluation. This variable reflected the students' opinions about their French course.

French Teacher Evaluation. This variable reflected students' opinions about their French instructor.

Integrative Orientation. This variable assessed the extent to which students were seeking to learn French in order to interact with people who speak French. The Likert measure consisted of four items, all of which expressed integrative reasons for language study. The semantic differential was not used to measure this variable. It was replaced by a forced choice format that contrasted integrative and instrumental reasons for language study.

Instrumental Orientation. This variable assessed the degree to which language study was undertaken for pragmatic reasons. In this case, only four Likert items were used in addition to the Semantic Differential and Guilford measures.

French Use Anxiety. This variable referred to the apprehension experienced when using French in a public communicative setting. The Likert scale had four positively keyed and four negatively keyed items.

French Class Anxiety. This variable referred to the apprehension experienced while participating in French classroom activities. The Likert version of this scale had four positively keyed and four negatively keyed items.

Foreign Language Classroom Anxiety Scale. The thirty-three item Horwitz et al. (1986) scale was employed. Responses were given on a six-point Likert response scale. Item keying was not balanced, with 24 items indicative of anxiety and nine items referring to a relaxed state.

Objective Measures of French Performance

Thing Category Test (Lalonde & Gardner, 1984). This test has been used in previous studies of anxiety and language learning (MacIntyre & Gardner, 1989, 1991b). It is based on a native language test originally developed by French, Ekstrom, and Price (1963). Subjects were required to write as many appropriate elements of a given category as possible, in French. Five minutes were given to respond to three categories, "fruit", "parts of the body", and "clothing". One point was given if the response fit the category.

Theme Test (Lalonde & Gardner, 1984). This test was also developed by French et al. (1963) to be used for native language production. It was adapted to be a written French production measure for this study. Ten minutes were given for subjects to write a theme on the topic "My first week at university" in French. The compositions were scored on the basis of length, grammar, vocabulary complexity, variety in sentence structure, and use of idiomatic French.

Cloze test (Lalonde & Gardner, 1984). This test has been used in some previous studies of language acquisition. It consisted of a French prose passage from which every fifth word was omitted and replaced with a blank. Subjects were required to fill in the 25 blanks that appeared in the passage. They received one point for each blank filled in correctly. Six minutes were given to complete this test.

French Achievement (Gardner, Moorcroft, & Metford, 1989). This 100-item multiple choice test was administered to determine the subject's knowledge of verbs, adjectives, pronouns, and prepositions. It was adapted from a version of the Université Laval French Placement Test used by Gardner et al. (1989). Thirty minutes were given for subjects to complete this test.

Grades in French. Subjects' final grades in French were obtained from the department of French. Eighty-five percent of the subjects completed the release form.

Subjective Measures of French Performance

Subjects rated their French proficiency in terms of Speaking, Understanding, Reading, and Writing, using the Can Do measure developed by Clark (1984). The items contained in this test asked subjects to rate their ability to perform a wide range of tasks in the second language, for example counting to 10 or explaining the Canadian parliamentary system. Subjects rated their ability on a seven-point scale with the anchors "very easy for me" and "very difficult for me." The four scores were:

Speaking. Twelve items were used to assess the subjects' perceptions of their ability to speak French.

Understanding. Nine items were used to assess the subjects' perceptions of their ability to comprehend spoken French.

Reading. Six items were used to assess the respondents' perceptions of their ability to read French material with varying degrees of difficulty.

Writing. Six items were used to measure the subjects' perceived ability to perform various writing tasks.

Procedure

Subjects were tested in small groups. Each session lasted approximately two hours. The measures of anxiety, attitudes, and motivation were completed prior to the measures of French achievement and self-rating scales of French proficiency. Following the session subjects were thanked for their participation and were paid the subject fee.

Results and Discussion

The results of this study would be described in three parts. The first set of analyses deals with the relations among the learner variables. The second set of analyses will consider the correlations among the anxiety and the objective measures of French proficiency. The final set of analyses deals with the correlations between Language Anxiety and subjective, self-rated proficiency.

Learner Variables: Measurement and Interrelations

In order to assess the measurement of the constructs and their interrelations, the various learner variables were entered into a principal components analysis. It was expected that the different measurement procedures for any given variable will all load on the same factor indicating that the underlying variables were assessed similarly by the various measurement strategies.

Thirty-five variables were entered into the analysis representing the various methods of measuring the learner variables (see Table 2). In order to clearly identify the nature of the factors, the interpretation of the loadings in the VARIMAX rotated structure matrix used .50 as a cut-off value. This allows for identification of a factor by interpreting only those variables that are highly salient to its definition.

Application of the scree test (Cattell, 1966) suggested retaining a four factor solution. In order to ensure that all entered variables loaded on at least one factor, a fifth factor was extracted. As can be seen in Table 2, the results of this analysis strongly support the three broad constructs contained in Gardner's model: Motivation, Integrativeness, and Attitudes toward the Learning Situation, as well as an additional component of Language Anxiety.

The first factor in Table 2 shows high loadings (i.e. > .50) from 12 variables and corresponds to Motivation. All three measures of Attitudes toward Learning French (ALF), all three measures of Desire to learn French (D), and all four measures of Motivational Intensity (MI) load on this factor exclusively. Additionally, two measures of French Course Evaluation (FCE) are associated with Motivation.

The second factor, with high loadings from 7 variables, can be identified as Language Anxiety. All three measures of French Class Anxiety (FCA), all three measures of French Use Anxiety (FUA), and Foreign Language Classroom Anxiety (FLCAS) load on this factor.

Six variables load highly on the third factor which can be clearly defined as Integrativeness. All three measures of Integrative Orientation (INT) and the three measures of Attitudes toward French Canadians (AFC) load here. It should be noted that Interest in Foreign Languages (IFL) is usually found to be associated with this factor and two of the three loadings are found to be greater than .40. However, two of the three measures of IFL also load on the Motivation factor suggesting that IFL is associated with both Integrativeness and Motivation.

Table 2

Varimax Rotated Factor Matrix

	Factor				
	I	II	III	IV	V
Measure					
MI-L	.76*	.01	.11	.26	-.13
MI-S	.69*	.06	-.01	.49	.04
MI-G	.73*	.27	-.13	.16	-.16
MI-M	.70*	-.01	.16	.28	-.18
D-L	.80*	.02	.20	.03	.21
D-G	.74*	.05	.20	.03	.19
D-M	.60*	-.21	.33	.14	.08
ALF-L	.83*	-.08	.30	.14	.22
ALF-S	.66*	-.08	.06	.18	.46
ALF-G	.78*	-.12	.21	.18	.01
FCA-L	.01	.94*	-.02	.02	-.02
FCA-S	.03	.89*	.03	-.14	.02
FCA-G	-.03	.91*	-.02	-.10	.07
FUA-L	-.05	.82*	-.17	.07	-.12
FUA-S	-.05	.86*	-.15	.03	-.16
FUA-G	.11	.83*	-.05	.14	-.02
FLCAS	-.07	.90*	-.03	-.20	.02
AFC-L	.17	-.14	.80*	.07	-.05
AFC-S	.19	-.06	.67*	.16	.11
AFC-G	.10	-.07	.79*	.11	.00
IFL-L	.44	-.04	.44	-.19	.31
IFL-G	.23	.18	.47	-.25	.32
IFL-S	.47	.01	.32	-.01	.48
INT-L	.08	-.12	.73*	.09	.28
INTEX	.13	-.02	.64*	-.11	-.21
INT-G	.12	-.04	.71*	.19	.20
FCE-L	.53*	-.01	.06	.72*	.08
FCE-S	.52*	.02	.09	.73*	.13
FCE-G	.48	-.11	.16	.69*	.05
FTE-L	.11	.04	.02	.92*	.07
FTE-S	.11	-.13	.14	.83*	.13
FTE-G	.13	.00	.02	.93*	.02
INST-L	-.02	-.30	.27	.05	.59*
INST-S	.34	.13	-.01	.11	.63*
INST-G	-.08	-.06	.00	.16	.69*

Note: * factor loading > .50

The fourth factor, defined by six variables, is a measure of Attitudes toward the Learning Situation, as they relate to the specific course sections in which the student had enrolled. All three measures of the evaluation of the French teacher and the French course loaded on this factor.

The fifth factor, with loadings from only three variables, can be labelled Instrumental Orientation. All three measures of instrumental orientation (INST) load on this factor.

The factor structure obtained in this analysis corresponds very closely to the constructs described in the socio-educational model. Motivation, Attitudes toward the Learning Situation, and to a lesser degree, Integrativeness, emerge as specified in the model. The role of an instrumental orientation dimension has been a problem within this framework. An instrumental orientation was initially seen as being opposed to an integrative one (Gardner & Lambert, 1959) but subsequent research has not supported such a clear, consistent distinction (Dörnyei, 1990; Gardner, 1985; Gardner & MacIntyre, 1991). The potentially transient nature of instrumental motivation makes its role in the model less clear.

A more stable role appears to be available for Language Anxiety. It was found to define its own factor and it received no substantial loadings from other types of variables. The orthogonal nature of the rotation process produces factors with no correlation among them, suggesting that Language Anxiety is relatively independent of the other factors. The ability to measure language anxiety with more than one scale seems to have increased the probability of obtaining consistent factor structures.

The results of the factor analysis suggest that five main constructs account for the learner variables included in this study. In order to assess the correlation between language anxiety and the other four constructs, scale scores were created by summing the various

measures of each variable. This resulted in a single score representing each of motivation, integrativeness, attitudes toward the learning situation, instrumental orientation, and language anxiety.[1] Only integrativeness shows a significant correlation with language anxiety ($r = .25$, $p < .05$), while the correlations between language anxiety and instrumental orientation ($r = -.17$), attitudes toward the learning situation ($r = -.04$), and motivation ($r = -.06$) were nonsignificant. This further supports the suggestion that language anxiety is relatively independent of the other classes of variables.

Anxiety and Objective Proficiency Measures

The second purpose of this study was to examine the relation between language anxiety and the objective measures of French proficiency. Table 3 presents the correlations between the various measures of anxiety and the objective performance measures. The highest observed correlation is between Foreign Language Classroom Anxiety Scale and the Theme test ($r = -.61$, $p < .01$).

Overall, a fairly consistent pattern of negative correlations was observed. The three French Class Anxiety measures and the FLCAS are each significantly, negatively correlated with all of the objective proficiency variables. In addition, the three French Use Anxiety measures show significant, negative correlations with the Cloze test, Theme test, and the Achievement test. The Likert and Semantic Differential versions of the French Use Anxiety scale are also significantly, negatively correlated with the Categories test. Nonsignificant correlations are observed, however, between the French Use Anxiety variables and course grades, as well as between the

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[1] An alternative analytic procedure is to interpret the correlations among factors following an oblique rotation. The present procedure was followed to avoid the potential for difficulty in interpreting factors following an oblique rotation. Tabachnick & Fidell (1989) suggest that "An embarrass de richesse awaits the researcher who uses oblique rotation" to discover the correlations among the factors (p. 630).

Table 3

Correlations of Anxiety and Objective Performance Measures

Zero-Order Correlations

	CLOZE	CAT	THEME	FRACH	GRADE
FLCAS	-.46**	-.33**	-.61**	-.48**	-.38**
FCA-L	-.36**	-.25**	-.47**	-.38**	-.23*
FCA-S	-.42**	-.22*	-.51**	-.49**	-.42**
FCA-G	-.40**	-.25**	-.50**	-.44**	-.30**
FUA-L	-.26**	-.20*	-.38**	-.28**	-.04
FUA-S	-.33**	-.24**	-.48**	-.42**	-.18
FUA-G	-.23*	-.16	-.40**	-.34**	-.14

Canonical Correlation Analysis

	Canonical Correlation	Likelihood Ratio	Approx. F	p <
(1)	.67	.38	2.10	.001
(2)	.46	.69	1.10	.35
(3)	.28	.88	.61	.86
(4)	.21	.95	.43	.90
(5)	.05	.99	.07	.98

Correlations of Anxiety Scales and their First Canonical Variable

FLCAS	-.96
FCA-L	-.77
FCA-S	-.93
FCA-G	-.84
FUA-L	-.57
FUA-S	-.72
FUA-G	-.61

Correlations of the Objective Proficiency Measures and their First Canonical Variable

CLOZE	.80
CATEGOR.	.39
THEME	.90
ACHIEVE	.74
GRADES	.68

Note: * p < .05 ** p < .01 (1-Tailed)

single-item Guilford measure of French Use Anxiety and scores on the Categories test.

A canonical correlation analysis was performed in order to better determine the dimensionality underlying the fairly consistent interrelations between anxiety and the objective proficiency measures. Using the seven anxiety scales and the five performance measures, one significant canonical correlation ($R = .67$) was obtained (likelihood ratio = .37, $p < .001$). Table 3 shows that the correlations of the anxiety variables with their first canonical variable are all negative and fairly high, emphasizing the FLCAS scale and the French Class anxiety scale.[2] The correlations of the proficiency measures with their first canonical variable are also fairly high, with the exception of the Categories test. A redundancy analysis revealed that 27.6% of the variance in the objective proficiency measures could be accounted for by the anxiety measures and that 35% of the variance in the anxiety measures could be accounted for by the proficiency measures.

This evidence suggests that the anxiety scales are all assessing a Lack of Language Anxiety dimension while the performance variables measure an Objective French Proficiency dimension. It can be concluded that Language Anxiety is significantly, negatively correlated with Objective French Proficiency.

Previous studies have suggested that language anxiety is correlated with objective measures of proficiency, particularly achievement tests and course grades (MacIntyre & Gardner, 1991a). Language anxiety appears to correlate with more specific measures of proficiency as well. Both the more general and more specific proficiency measures seem to represent relatively homogeneous

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[2] Canonical correlations take positive values. The negative sign preceding each of the correlations between the anxiety scales and this canonical variate allows for the overall canonical correlation between the sets of variables to be positive. In other words, rather than having a negative correlation between the dimensions, the identification of one of the dimensions is made negative (i.e. a lack of anxiety) allowing for a positive canonical correlation.

constructs. These measures primarily rely on written responses, although somewhat different skills may be involved, such as recognition (French Achievement), recall (Categories), comprehension (Cloze), the free production of French (Theme), and a more broad-based measure that includes some oral performance (Grades). The canonical correlation between the group of proficiency measures and the set of language anxiety scales shows a strong relationship between the two types of variables.

Anxiety and Subjective Proficiency Measures

The subjective self-ratings of proficiency in speaking, understanding, writing and reading were all significantly, negatively correlated with all measures of language anxiety (see Table 4). The highest observed correlation is between French Use anxiety (Semantic Differential) and the rating of Speaking Proficiency ($r = -.70$, $p < .01$).

The subjective self-ratings of proficiency show a pattern of correlations with language anxiety that is similar to the pattern observed for the objective proficiency measures. Table 4 shows that one canonical correlation ($R = .77$) between the anxiety scales and the Can Do ratings was significant (likelihood ratio = .31, $p < .001$). The correlations of the anxiety variables with their first canonical variable are all fairly high and seem to emphasize the French Use anxiety scales. The correlations of the self-rated proficiency measures with their first canonical variable are negative and fairly high, with emphasis on the Speaking ratings.[3] A redundancy analysis revealed that 35.8% of the variance in the self-ratings of proficiency could be accounted for by the anxiety measures and that 49.2% of the variance in the anxiety measures could be accounted for by the self-ratings of

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[3] see note 2.

Table 4

Correlations of Anxiety and Subjective Performance Measures

Zero-Order Correlations

	SPEAK	UNDER	WRITE	READ
FLCAS	-.61**	-.52**	-.54**	-.53**
FCA-L	-.59**	-.56**	-.45**	-.51**
FCA-S	-.46**	-.47**	-.41**	-.48**
FCA-G	-.54**	-.48**	-.49**	-.49**
FUA-L	-.67**	-.61**	-.45**	-.52**
FUA-S	-.70**	-.63**	-.49**	-.58**
FUA-G	-.54**	-.50**	-.37**	-.44**

Canonical Correlation Analysis of
Anxiety and Self-Rated Proficiency Scores

	Canonical Correlation	Likelihood Ratio	Approx. F	p <
(1)	.77	.31	3.93	.001
(2)	.38	.78	1.20	.27
(3)	.29	.90	.86	.58
(4)	.11	.99	.25	.91

Correlations of Anxiety Scales and their First Canonical Variable

FLCAS	.75
FCA-L	.77
FCA-S	.61
FCA-G	.67
FUA-L	.91
FUA-S	.92
FUA-G	.76

Correlations of the Subjective Proficiency Measures and their First Canonical Variable

SPEAK	-.95
UNDER	-.85
READ	-.62
WRITE	-.74

Note: * p < .05 ** p < .01 (1-Tailed)

proficiency. It would appear that the Language Anxiety dimension is also correlated with a Poor Self-Rated French Proficiency dimension.

Unlike the objective proficiency measures cited above, the Can Do scales include all four of the key components of language learning. As a set they seem to represent a single dimension, suggesting that if students consider themselves to be proficient in one skill they will see themselves as proficient in all of them. Compared to the canonical correlation involving objective proficiency measures, the Language Anxiety dimension has a slightly stronger emphasis on French Use anxiety in the current analysis.

Summary

The results of this study demonstrate that language anxiety is a meaningful construct that can be separated from integrativeness, motivation, attitudes toward the learning situation, and an instrumental orientation. Both the relatively simple structure of the language anxiety factor and the relatively low correlations observed between language anxiety and the other constructs further supports these distinctions.

The canonical correlation between language anxiety and objective French proficiency measures suggests that a strong association can be obtained between the two dimensions. Further, language anxiety also shows a somewhat stronger significant negative correlation with subjective ratings of French proficiency. In both analyses, a single significant canonical correlation is observed indicating that the relation between the sets of variables is unidimensional. The difference in magnitude of the two significant canonical correlations may indicate that language anxiety is more closely related to self-perceptions of proficiency than it is to objective measures of proficiency or it may simply reflect common method variance in that the anxiety scales and Can Do scales are both self-report measures. In any

event, a strong association between language anxiety and second language proficiency was observed in this study.

Demonstrating that language anxiety is correlated with second language proficiency is a first step in explaining the relationship between these classes of variables. All of the objective French proficiency measures in this study involve French production. Language learning also involves the encoding, storage, and retrieval of items from memory before production of the language can take place. Therefore, the question can be posed: Is this relation attributable to anxiety disrupting performance during French production only or does anxiety disrupt language learning activities that precede verbal production as well? The next study will attempt to investigate the underlying process by which anxiety can exert an influence on language learning before the production phase.

CHAPTER 3

Introduction to Study 2

The preceding investigation demonstrated that language anxiety is negatively related to various assessments of second language achievement. The purpose of the present study will be to examine the potential sources of those performance deficits in terms of a cognitive model of the effects of anxiety on learning from instruction. The model is taken from Tobias (1986) who separates learning into three phases: input, processing, and output. Although learning is a continuous process, Tobias' model draws the distinctions among the stages in order to isolate and explain the effects of anxiety. Tobias (1986) notes that these stages are somewhat arbitrarily defined.

The input stage is meant to illustrate the learner's first experiences with a given stimulus at a given time. Input is concerned with the initial representation of items in memory. At this stage, external stimuli are encountered and internal representations are made. Attention, concentration, and encoding occur at this stage. If the effect of anxiety arousal is to divide attention between task-relevant and task-irrelevant stimuli, then anxiety at the input stage means that fewer items are available for processing at a later time. Therefore, anxiety-arousal at this stage should have an impact on all subsequent stages unless the missing input can be recovered. In second language learning, difficulties may arise if the language is spoken too quickly or if written material appears in the form of complex sentences. Anxious students may ask for sentences to be repeated more often or may have to re-read text several times to compensate for missing input.

The processing stage involves the cognitive operations performed on the subject matter. Organization, storage, and assimilation of the material occur at this stage. This stage involves unseen, internal manipulations of items taken in at the input stage. Therefore, latency is the primary indicator of activity at the processing stage. Tobias

(1986) suggests that anxiety will impair cognitive processing on tasks that are more difficult, more heavily reliant on memory, and more poorly organized. Each of these increases the demands on processing time. In second language contexts, the time taken to understand a message or learn new vocabulary items would indicate activity at this stage.

Output involves the production of previously learned material. Performance at this stage is highly dependent on the previous ones in terms of the organization of the output and the speed with which items are retrieved from memory. It is at this stage that language learners are required to demonstrate their ability to use the second language. Summative test scores, such as final course grades used in many language studies, can be used to assess performance at this stage. Performance at the output stage can be measured by test scores, verbal production, and the qualities of free speech. When students report "freezing" on tests (Horwitz et al., 1986), they suggest that material has been learned but test performance does not reflect that learning. This would represent interference at the output stage.

The use of the term "stages" in Tobias' model should not be taken to mean that learning occurs in discrete sections. Although Tobias claims to have borrowed the terms "Stages," "Input," "Processing," and "Output" from descriptions of computer processing of information, the use of these terms in this model seems to correspond more closely to developmental psychologists' use of the term "stages of development" (Smith, Sarason, & Sarason, 1982). In either case, the stages themselves may not have a clear dividing line that separates one from the other, and parts of the input stage might not be complete before processing begins. In communicative situations, for example, the meaning of a message might be clear before the message has been completely delivered.

Most of the previous studies in the language anxiety area have investigated the output stage. Variables such as oral test scores,

classroom participation, verbal production, and speech quality are primarily output tasks. Additionally, the items appearing on existing scales of language anxiety refer primarily to apprehension experienced while speaking. Tobias (1986) notes, however, that difficulty in performance at the output stage may be caused by deficits created at earlier stages. Therefore, the correlation between language anxiety and second language performance at the output stage observed in previous studies (including Study 1 here) might be indicative of problems at the input, processing, or output stages.

MacIntyre and Gardner (1991b) investigated the effect of anxiety on input and output in both native and second languages. Scores on a digit span test served as a measure of performance at the input stage whereas scores on a vocabulary production test measured performance at the output stage. Significant correlations were observed between language anxiety and second language performance at both the input and output stages. General anxiety did not, however, correlate with performance on these tasks in either the native or second language.

Other studies have suggested, somewhat indirectly, that anxiety may also play a role at the processing stage. One index of performance at the processing stage would be the amount of time spent studying and learning new vocabulary items. Anxious students, in general, spend more time studying than their more relaxed colleagues (Eysenck, 1979; Tobias, 1986). Anxious language students also report spending considerable time studying for their language courses (Cohen & Norst, 1989; Price, 1991). In a laboratory setting where study time could be measured more precisely than in the classroom, MacIntyre & Gardner (1989) found some evidence of a significant, positive correlation between language anxiety and the time taken to learn vocabulary items using a computerized language learning program.

Based on these results, it would appear that language anxiety is a specific type of apprehension with very specific implications for all

three stages of cognitive processing. While Tobias' model is specifically concerned with the stages of processing during task performance, it might also be possible to measure anxiety at each stage separately. It would then be possible to examine the association between stage-specific anxiety and stage-specific performance.

Therefore, the first purpose of the current study is to extend the MacIntyre and Gardner (1991b) study and offer a more complete analysis of the processes by which anxiety may impair language learning. It will therefore be necessary to employ tasks that examine language learning in terms of the Input, Processing, and Output components.

The second purpose will be to construct and test a "stage-specific" anxiety instrument that is structured around Tobias' three-part model. As noted above, existing scales have not taken into account the possibility of a different role being played by anxiety at the three stages of processing. This will also permit a test of the extent to which anxiety at one stage is correlated with anxiety at other stages.

Finally, the present study also will examine the correlation of these three new anxiety scales with performance at the various stages of processing. The approach taken in this study might be considered as "cross-sectional" in that the intent is to develop several different tasks that isolate, as far as possible, one of the three stages.

Before describing the study, an important caveat should be noted. The distinctions among the three stages of processing should not be taken as absolute or exact. It is difficult to imagine that any task involves one stage alone, although it is possible to view a task as being primarily dependent on one of the stages. These three stages certainly overlap and represent a continuous process of exposure, comprehension, and production of French. The attempt is made here to isolate each stage as much as possible with the understanding that the differentiation of stages is, necessarily, imprecise. The potential value of distinguishing among the stages is to specify more precisely

the types of language learning activities that might be impaired by the arousal of anxiety.

Method

Subjects

A total of 97 students of French 021 (Introductory French at the University of Western Ontario) classes were recruited and paid $15 for their participation. Participants in the study were recruited from their regularly scheduled French classes, during the week following spring break - six weeks prior to the end of the academic year.

Materials

Two types of materials were used in this study: anxiety measures and second language performance measures (see Appendix B). Three new anxiety scales were developed to measure anxiety at each stage of learning. Also, several performance measures were either developed or modified to isolate variables that can be considered indicative of one of the stages.

Anxiety Measures

Eighteen items were written by the investigator to focus on each of the three stages of learning (see Figure 1). For each stage, items were balanced in keying with three positive items (indicative of anxiety) and three negative items. The three resulting measures and their alpha reliability coefficients were:

Input Anxiety. This scale consists of six items that reflect anxiety experienced during the initial coding and presentation of information (α = .78).

Processing Anxiety. This scale reflects the anxiety aroused while processing information in order to learn and organize French material (α = .72).

Figure 1

Items Used in the Stage-Specific Anxiety Scales

Input Stage Items

Input 1. I am not bothered by someone speaking quickly in French.

Input 2. It does not bother me if my French notes are disorganized before I study them.

Input 3. I enjoy just listening to someone speaking French.

Input 4. I get flustered unless French is spoken very slowly and deliberately.

Input 5. I get upset when I read in French because I must read things again and again.

Input 6. I get upset when French is spoken too quickly.

Processing Stage Items

Pro. 1. Learning new French vocabulary does not worry me, I can acquire it in no time.

Pro. 2. I am anxious with French because, no matter how hard I try, I have trouble understanding it.

Pro. 3. The only time that I feel comfortable during French tests is when I have had a lot of time to study.

Pro. 4 I feel anxious if French class seems disorganized.

Pro. 5. I am self-confident in my ability to appreciate the meaning of French dialogue.

Pro. 6. I do not worry when I hear new or unfamiliar French words, I am confident that I can understand them.

Output Stage Items

Output 1. I never feel tense when I have to speak in French.

Output 2. I feel confident that I can easily use the French vocabulary that I know in a conversation.

Output 3 I may know the proper French expression but when I am nervous it just won't come out.

Output 4. I get upset when I know how to communicate something in French but I just cannot verbalize it.

Output 5. I never get nervous when writing something for my French class.

Output 6. When I become anxious during a French test, I cannot remember anything I studied.

Output Anxiety. Six items provide a measure of the anxiety associated with the production of French material (α = .78).

In order to assess the validity of these new scales, three established scales of language anxiety were also administered. Each of these scales was used in Study 1.

French Class Anxiety (Gardner, 1985). Eight items with balanced keying were included in this study (α = .91).

French Use Anxiety (MacIntyre & Gardner, 1988). Eight items with balanced keying were included in this study (α = .90).

Foreign Language Classroom Anxiety Scale (FLCAS, Horwitz et al., 1986). An eight-item short form of this scale was developed for use in this study (α = .90). Appendix C describes the analyses of the scale items, based on data from Study 1, that were undertaken to produce a short form of the scale that maintained the properties of the full scale.

Performance Measures

One measure of second language performance was course grades. Additionally, eight tasks designed to measure language performance were administered. Five of these tasks were administered in both English and French while three were completed in French alone. Each task yielded data relevant to one or more of the stages of learning. The specific variables that can be extracted from each of the tasks appear below and the corresponding stage of learning is indicated. For later reference, each variable name has been given a number. In total, scores on 35 measures were obtained, seven representing French input, eight representing French processing, and eleven representing French output. In addition, the English input and output stages were measured with three and five variables respectively.

Word Span. This test was constructed by the investigator for the present study. In this test, French nouns flashed rapidly on the computer screen. Subjects were required to repeat the string, orally, in the same order. The strings of French nouns and their definite articles were presented in lengths that varied from four to eight items, with two strings at each level. The presentations of each noun lasted for one second before the screen was blanked and the next noun presented. All items were presented in the same location on the screen. Following the final noun, the word "begin" was presented and subjects began speaking. The responses were tape-recorded and later scored for accuracy. The first string presented was made up from a pool of nine familiar words (e.g. le verre) with a probability of correct translation greater then .95 (Desrochers, 1980). To make the task somewhat more difficult, the second string was from a pool of unfamiliar words (e.g. la pieuvre) with a probability of correct translation less than .05 (Desrochers, 1980). The number of items in their correct position for the familiar and unfamiliar words were counted. This task requires the retention of items for only a brief period. Advance knowledge of the words is not essential and no processing is required. Even though the responses are spoken in French, they are not generated by the subject and the response could possibly be spoken by a person who knows no French at all. This test can therefore be considered as an input task.

(1) Familiar Word Span (input).

(2) Unfamiliar Word Span (input).

Digit Span. This test was based on the Digit Span test of the Weschler Intelligence tests that has been used in studies of state and trait anxiety (Hodges & Spielberger, 1969), test anxiety (Mueller, 1980), and studies of the cognitive processing of bilingual persons (Hoosain, 1979, 1984). The test administered in the current study was similar to that used by MacIntyre and Gardner (1991b) in which strings of single digit numbers were read from a tape recorder, one set in

English and one set in French. Subjects were required to write the numbers in their proper order. The strings varied from five to nine digits in length, with two strings of digits at each level. The number of digits placed in their correct position in English and in French were counted separately. This task requires the retention of items for only a brief period of time and does not involve the production of French. The numbers are not given meaning in the experiment and therefore no processing is required. Therefore, as with Word Span, this task may be considered predominately an input measure.

(3) French Digit Span (input).

(4) English Digit Span (input).

T-Scope. This task was constructed by the investigator for the present study. An attempt was made to simulate a Tachistoscope (T-Scope) using a micro-computer to obtain a measure of the time required to identify a familiar target as either an English or French word. Subjects were first presented with a fixation point (+) in the middle of a blank computer screen. The point was visible for one second after which a word appeared on the screen. The word was either a French or English number between one and nine (excluding "six," "sept," and "seven"). The computer was equipped with a two-button mouse, one button was marked "English" and the other was marked "French". The subjects used the mouse to indicate whether the word on the screen was an English or French item. The number of stimuli correctly classified and the latency of those judgements in English and in French produced four variables. This task required only the recognition of the language of presentation for an item and is therefore an example of an input task.

(5) French Recognition (input).

(6) English Recognition (input).

(7) French T-Scope Latency (input).

(8) English T-Scope Latency (input).

Cloze Test. A computerized version of the test used in Study 1 was developed. Subjects were presented with the complete French paragraph with every fifth word removed and replaced by a blank. In all, 25 blanks appeared and each had a length of 12 spaces on the screen. Each blank was also numbered. The subject responded by typing the number of the blank to be filled-in and then typed a response. The subject's response replaced the blank in the appropriate portion of the passage. The response was highlighted and subjects were told not to change their responses. Subjects could fill-in the blanks in any order that they chose. A time limit of five minutes was set for this test. An independent rater, unaware of the hypotheses of the study and not involved with Study 1, judged the appropriateness of the entries, allowing for synonyms of missing items. The first measure taken from this program is the total time required by the subject to complete the test and is therefore a processing task with a definite time limit. The other dependent variable is the score on the test, based on appropriate French production, and is therefore an output task.

(9) the Cloze Test Latency (processing).

(10) the Cloze Test Score (output).

Paragraph Translation This test was constructed by the investigator for the present study. A passage from Rilke's (1937) Lettres à un jeune poète was chosen to be a moderately difficult passage for students at this level, as evaluated by two instructors of French 021. The paragraph was split into 11 sections and presented on the computer screen. Two boxes of equal size were drawn across the full width of the screen, one above the other. The upper box contained one line from the French passage and the bottom box contained a question mark. The responses typed by the subjects appeared in the lower box. In order to encourage backward and forward movements through the passage, only one line of the paragraph was visible at a time. At any time, subjects could move on to the next line of the passage, move back

to view the previous line and their English response, or end the test. Subjects were told that moving backwards and forwards through the message would lead to maximum accuracy. A limit of five minutes was imposed. An independent judge scored the accuracy of each of the eleven sections. The variables taken from this task are the number of backward movements, the time required to complete the task, and the score for the translation. The number of backward movements can be considered an input variable because they measure the necessity for reviewing the passage in order to allow for the input of information more than once. The latency of the test can be considered as a processing variable because it represents the time spent on the translation, within the set time limit. The paragraph translation score is a processing variable because the response was produced in English and does not involve the production of French. The responses were made in English based on the respondent's understanding of the words of the French passage in context and is therefore a processing task.

(11) Backward Movements (input).

(12) Paragraph Translation Time (processing).

(13) Paragraph Translation Score (processing).

Paired Associates Learning. This test was constructed by the investigator for the present study, but similar tests have been used in several other studies (Gardner et al., 1987; Gardner & MacIntyre, 1990; MacIntyre & Gardner, 1989). Sixteen pairs of English-French nouns were chosen from a list of pairs with a low translation probability (.05 or less) (Desrochers, 1980). The computer-based learning of these rare French nouns was conducted in two stages. In the first stage, each of the 16 pairs was presented in a random order over three trials. The full block of 16 pairs was presented before any of the pairs were repeated and the display appeared continuous. Subjects could study the items on the computer screen for as long as they wished, up to a maximum

of 10 seconds each. The time needed to make the necessary connections in memory (i.e. a processing task) was recorded.

A production test was administered after subjects saw each of the pairs three times. Each of the English halves of the pairs was presented individually at the top of a blank computer screen. The test required the typing of the French portion of the pairs as accurately as possible when prompted with the English noun. The time required to complete the test can be considered a processing task. Each response was rated on a three point scale (c.f. MacIntyre & Gardner, 1989) and the total score can be considered an output variable.

(14) Study Time-1 (processing).

(15) Pairs Score-1 (output).

(16) Pairs Test Time-1 (processing).

Following this test, subjects were asked to continue viewing the words until they felt confident that they were able to reproduce them. A maximum of three more trials was given, although the subject could stop the display at any time during the trials. The number of extra pairs viewed in this phase (input) and the time taken to view the extra pairs (processing) were recorded. The subjects then completed the production test a second time. The score for the second testing and the time taken to complete the second test were also recorded.

(17) Study Time-2 (processing).

(18) Extra Pairs (input).

(19) Pairs Score-2 (output).

(20) Pairs Test Time-2 (processing).

Self-Description This test was constructed by the investigator for the present study. Subjects were required to describe themselves as fully and accurately as possible for one minute in English and one minute in French. This description was recorded on audio tape. Half of the subjects began their self description in English and half began with the description in French. The number of items included in the

descriptions was counted by a judge who recorded the number of pieces of information given by the subject. The number of items produced in both languages, i.e., the degree to which the descriptions overlap, was also recorded.

Based on a study by Young and Gardner (1990), both the English and French descriptions were rated along three dimensions using a seven-point Likert scale: Fluency, Sentence Complexity, and Depth of Description. The rating of Fluency refers to the degree to which the subject's speech flowed, without interruption, from one item to the next. The rating of Sentence Complexity refers to the use of simple, one word descriptions or well structured, full, complex sentences. The Depth of Description refers to the nature of the items produced, whether the subject discussed only superficial characteristics (age, physical appearance, courses taken at Western, etc.) or only deeper, personal items (personality characteristics, preferences, aspirations, etc.). The French description was rated along an additional dimension, French Accent, on the basis of the degree to which the subject sounded like a native French speaker. The self-description required spontaneous verbal production, therefore all of the above variables can be considered output tasks.

(21) English Description Length (output).

(22) French Description Length (output).

(23) Overlap (output).

(24) English Fluency (output).

(25) English Sentence Complexity (output).

(26) English Depth (output).

(27) French Accent (output).

(28) French Fluency (output).

(29) French Sentence Complexity (output).

(30) French Depth (output).

Thing Category. This test was administered as in Study 1. It involves the naming of elements appropriate to a given category. Three categories required French items, "Things that belong in a suitcase", "Words that begin with the letter "M", and "Adjectives that describe people". Three categories required English responses, "Things that belong in a refrigerator", "Words that begin with the letter "T", and "Adjectives that describe houses." Subjects were given one minute to write their responses for each category. The number of responses that correctly belong to the categories in each language was tallied. This task involves the spontaneous production of appropriate items and is therefore an output task.

(31) French Categories (output).

(32) English Categories (output).

French Achievement. The 100-item French Achievement Test used in Study 1 was administered in the current study, with a time limit of 25 minutes. Subjects completed the paper-and pencil multiple choice test in small groups. This test requires the recognition of the correct answer from a list of four alternatives but does not require the production of French. The response is simply a circle drawn around a chosen alternative. The score on the test depends on the subject's ability to answer the questions, based on his/her existing knowledge of French, within the set time limit. It can therefore be considered a processing task.

(33) French Achievement Test (processing).

Grades. Subjects were asked to sign a release form providing access to their final grades in the French 021 course. Three students refused to sign the form; therefore, their marks are not available. Course grades are based on a number of different tasks but the measure most closely corresponds to an output task because most of the

evaluation done in language class is based on either oral or written test performance.

(34) Grades in French (output).

Procedure

During the first session, students were tested in small groups where they completed the questionnaire that included the measures of anxiety and a French Achievement test. At the conclusion of this session, an appointment was made for an individual testing time. Those who did not arrive for the second session were telephoned to arrange for an alternate time.

The individual testing session comprised a number of tasks. The testing began by asking the students to sign the Grade Release Form. During the rest of the individual testing session, participants were asked to complete the several tasks from which measures of Input, Processing and Output performance were taken.

Following the individual session, participants were paid $15, thanked for their participation, and given a Feedback Sheet describing the study. The experimenter answered any questions that the student had about the study. The students generally indicated that they found the study to be interesting and the variety of tasks to be enjoyable. The only consistent complaint registered by the subjects concerned the difficulty of the word span task.

Results and Discussion

The first issues to be addressed are the reliability and criterion validity of the three anxiety scales that correspond to each of the stages of processing. Three established measures of language anxiety, as noted above, served as the criterion variables. The rest of the discussion will present the correlations between anxiety and performance on the various French and English tasks.

Reliability and Validity

The reliability of the Input, Processing, and Output Anxiety scales were .78, .72, and .78 respectively. These reliability coefficients are slightly lower than those obtained for the other measures of language anxiety, which are eight-item scales (all three α's > .90). When the reliability coefficients for the Input, Processing and Output Anxiety scales are adjusted, using the Spearman-Brown formula, to correspond to eight-item scales, the alpha coefficients rise to .83, .77, and .83 for the Input, Processing and Output Anxiety scales respectively. These adjusted reliability coefficients suggest that adding two additional items to each of these three scales would moderately increase alpha, although not to the high levels shown by the other three scales.

Table 5 presents an analysis of the items for each scale. This table shows the corrected item-total correlation for each of the 18 items comprising the three stage-specific anxiety scales. Table 5 also presents the correlation between each of the items and scores for the other two stage-specific scales. Items are expected to show significant item-total correlations and be more highly correlated with their own scale score than with the scores of the other two stage-specific scales.

Five of the six items comprising the Input Anxiety scale show significant item-total correlations. However, three of those six items show higher correlations with another stage-specific scale. In two of these three cases, the correlation is highest with the score for the processing scale. This would appear to suggest some overlap between the items of the input and processing scales.

Table 5

Correlations of Stage-Specific Anxiety Scale items with their own scale (corrected item-total correlations) and with the other two stage-specific scales.

	INPUT	PROCESS	OUTPUT
Input 1	.83**	.69**	.60**
Input 2	.19	.29**	.26*
Input 3	.27**	.35**	.16
Input 4	.77**	.73**	.55**
Input 5	.57**	.56**	.58**
Input 6	.66**	.58**	.49**
Pro. 1	.54**	.57**	.51**
Pro. 2	.59**	.50**	.54**
Pro. 3	.54**	.47**	.50**
Pro. 4	.30**	.20*	.09
Pro. 5	.49**	.50**	.41**
Pro. 6	.53**	.51**	.55**
Output 1	.58**	.58**	.62**
Output 2	.62**	.65**	.66**
Output 3	.37**	.44**	.60**
Output 4	.25*	.23*	.40**
Output 5	.40**	.41**	.46**
Output 6	.42**	.44**	.42**

Note: * $p < .05$
** $p < .01$

All six of the items comprising the Processing Anxiety scale show significant item-total correlations. However, four of the six items from the Processing Anxiety scale show higher correlations with another stage-specific anxiety scale. In three of these four cases, the item correlates most highly with the Input scale. This also supports the conclusion that the input and processing items are closely related. The lack of a substantial degree of overlap with the output scale items indicates that the Input Anxiety and Processing Anxiety items are more similar to each other than they are to the Output Anxiety items.

The items comprising the Output Anxiety scale all show significant item-total correlations. Only one of the six items correlates more strongly with another stage-specific anxiety scale, the Processing scale.

Table 6 presents the correlations among the three stage-specific scales. These scales show significant and fairly high correlations (ranging from .64 to .77) among themselves. Table 6 also presents the correlations of these three scales with the other measures of language anxiety. In all cases, these correlations are strong and significant.

It was suggested in the introduction to the current study that other measures of language anxiety seem to focus on the output stage. Therefore, it was expected that, of the three stage-specific anxiety scales, the Output scale would show the highest correlations with other measures of language anxiety. Significance tests show that the correlation between Output and French Class Anxiety is significantly higher than the correlation between Input and French Class Anxiety ($Z = 2.9$, $p < .01$) and the correlation of Processing with French Class Anxiety ($Z = 2.4$, $p < .05$). Similar results are found for the tests involving FLCAS. The correlation of Output and FLCAS is significantly higher than the correlation of Input with FLCAS ($Z = 3.16$, $p < .01$) and Processing with FLCAS ($Z = 2.60$, $p < .05$). The correlations involving French Use Anxiety show a similar pattern but are not significantly

Table 6

Correlations among Measures of Language Anxiety

	Input	Process.	Output	Fren. Class	FLCAS	Fren. Use
Input	-	.77**	.64**	.67**	.62**	.64**
Processing		-	.67**	.70**	.69**	.64**
Output			-	.82**	.81**	.72**
French Class				-	.91**	.78**
FLCAS					-	.79**
French Use						-

Note: ** $p < .01$, one tailed

different. These correlations support the conclusion that Output Anxiety is more highly associated with existing language anxiety scales than are the Input and Processing Anxiety scales.

These reliability and validity analyses lend support to the distinctions made among the three stage-specific anxiety scales, particularly the distinction between the output stage and the two previous stages. French Class Anxiety and the Foreign Language Classroom Anxiety Scale both refer primarily to speaking during language class and are most highly correlated with the Output anxiety scale. This suggests that the stage-specific scales have some discriminant validity. The lower levels of reliability for the three new scales and the apparent overlap between Input and Processing Anxiety scale items suggest that further scale development is required, especially for the Input and Processing Anxiety scales.

Anxiety and Task Performance

The results are presented below for each of the various tests included in the study according to the stage associated with each task. Table 7 presents the correlations of each measure of achievement with all three of the stage-specific anxiety scales. In the following discussion, attention primarily will be directed toward the correlation involving the anxiety measure that corresponds to the most appropriate stage of learning. That is, the presentation will focus upon the correlations of tasks at the input stage with input anxiety, processing tasks with processing anxiety, and output tasks with output anxiety. The correlations involving the two other stage-specific anxiety scales also will be noted.

Based on previous studies (Gardner, 1985; Horwitz, 1986; MacIntyre & Gardner 1989, 1991b), it was expected that the measures of English performance would not be significantly correlated with language anxiety scales because language anxiety is a situation-specific anxiety that

Table 7

Correlations of Anxiety Scales with Performance Measures

Task	Anxiety Scale		
	Input	Process.	Output
Word Span			
(1) Familiar	-.19*	-.24*	-.19*
(2) Unfamiliar	-.27**	-.23*	-.18*
Digit Span			
(3) French Digit Span	-.04	-.03	-.09
(4) English Digit Span	.11	.17	.11
T-scope			
(5) French Recognition	-.07	-.03	-.14
(6) English Recognition	.10	.01	.01
(7) French T-Scope Latency	.20*	.18*	.21*
(8) English T-Scope Latency	-.04	.02	.01
Cloze Test			
(9) Cloze Test Latency	.12	.11	.02
(10) Cloze Test Score	-.44**	-.45**	-.49**
Paragraph Translation			
(11) Paragraph Translation Time	.03	.03	.01
(12) Paragraph Translation Score	-.41**	-.51**	-.33**
(13) Backward Movements	-.18*	-.23*	-.14
Paired Associates Learning			
(14) Study Time-1	.21*	.27**	.09
(15) Pairs Test Time-1	.22*	.24*	.11
(16) Pairs Score-1	-.19*	-.23*	-.21*
(17) Study Time-2	.17	.20*	.09
(18) Extra Pairs	.01	-.02	-.12
(19) Pairs Score-2	-.07	-.11	-.08
(20) Pairs Test Time-2	.05	.13	.08
Self Description			
(21) English Description Length	.04	-.06	-.04
(22) French Description Length	-.41**	-.48**	-.36**
(23) Overlap	-.30**	-.38**	-.25**
(24) English Fluency	-.04	-.03	-.06
(25) English Sentence Complexity	-.22*	-.14	-.21*
(26) English Depth	.17	.16	.09
(27) French Accent	-.44**	-.40**	-.42**
(28) French Fluency	-.44**	-.47**	-.41**
(29) French Sentence Complexity	-.53**	-.48**	-.50**
(30) French Depth	-.12	-.03	-.14
Thing Category			
(31) French Categories	-.24*	-.22*	-.24**
(32) English Categories	.02	.12	.05
French Achievement			
(33) French Achievement Test	-.55**	-.65**	-.54**
(34) Grades in French	-.52**	-.60**	-.51**

Note: * $p < .05$, one tail, ** $p < .01$, one tail.
Note: The correlation between a given French task and its corresponding stage of learning is underlined.

does not predispose students to cognitive interference on other types of tasks. On the other hand, based on the same studies, it was anticipated that performance on the second language (French) tasks would be negatively correlated with language anxiety. It was also expected that the time taken to complete tasks would be positively correlated with anxiety (Cohen and Norst, 1989; MacIntyre & Gardner, 1989; Price, 1991) because anxious students expend more effort and thus require longer amounts of time to perform tasks. These predictions will be tested using one-tailed tests of significance.[4]

The Input Stage. A total of ten dependent variables represent the input stage. Based on theory and the results of previous studies (Gardner, 1985; MacIntyre & Gardner, 1989, 1991b), it was anticipated that Input anxiety would correlate with the French versions of the tasks (seven measures) but not with the English versions (three measures). Six of the ten expected relationships were observed.

Both the (1) Familiar ($r = -.19$, $p < .05$) and (2) Unfamiliar items ($r = -.27$, $p < .01$) of the Word Span test correlate negatively with Input anxiety. Anxious students seem to experience difficulty holding discrete verbal items in short term memory. This may explain why anxious students have trouble comprehending long sentences (Horwitz et al., 1986). It also suggests that a somewhat smaller amount of verbal input is retained by anxious students in short term memory.

A positive correlation also was observed between Input anxiety and the (7) French T-Scope Latency ($r = .20$, $p < .05$) but not (8) English T-Scope Latency ($r = -.04$, n.s.). The number of items correctly recognized in each language (5 & 6) was not correlated with Input

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[4] The majority of the tasks are being used in their current form for the first time in the present study (Word Span, Digit Span, T-Scope, Cloze Test, Paragraph Translation, Paired Associates Learning, and the Self Descriptions). For this reason, a liberal alpha level of .05 will be adopted for these tasks. Established measures (Thing Category Test, French Achievement Test, and Grades in French) will be evaluated at a more conservative .01 alpha level.

anxiety, probably owing to the extremely accurate scores for all subjects. This suggests that anxious students were slower to recognize that a word was being presented in French. The accuracy of the identification appeared not to suffer, given the extra time devoted to the task. The time required to recognize even the simplest items seems to be affected by anxiety and this effect would likely be magnified as stimuli become more complex.

The number of (13) Backward Movements in the paragraph translation test showed a significant negative correlation with Input anxiety ($r = -.18$, $p < .05$). It was expected that anxious students, who tend to be perfectionists (Price, 1991), would move backward more often in order to ensure accuracy. However, the reverse correlation was observed. Anxious people tended to proceed from top to bottom without reviewing their previous work whereas more relaxed students appeared to take a more flexible approach. The presence of a fixed time limit may have turned backward movements into a luxury available only to those who felt that they had time to spare. Tobias (1986) suggests that anxious students seek greater input when provided the opportunity. These results suggest that, under time constraints, anxious students may be less willing to take the time to review their previous work.

Neither the (3) French Digit Span nor the (4) English Digit Span were significantly correlated with Input anxiety ($r = -.04$, n.s. and $r = .11$, n.s. respectively). This seems to contradict the results presented earlier for the word span test. This also contradicts findings of an earlier study that showed that memory for numbers in French was impaired by language anxiety (MacIntyre & Gardner, 1991b). The current version of the digit span test has only half as many items as the previous study and the diminished variance of the measure might account for this null result. Further study is required to draw a firm conclusion about this issue.

The final variable measured at the input stage was the number of (18) Extra Pairs studied between the first and second testing of the Paired Associates program. The correlation between this variable and input anxiety was near zero ($r = .01$, n.s.). The mean number of extra pairs presented was 44.5 with approximately half of the students taking all 48 extra presentations. As noted below, the effect of anxiety seemed to arise at the processing stage wherein the extra pairs were studied longer.

The correlations of Processing Anxiety and Output anxiety followed the same pattern as the Input anxiety scale in nine of the ten cases. That is, if the correlation of Input Anxiety and an input performance task was significant, then the correlations involving the other two stage-specific anxiety scales were also significant. The only exception is for (13) Backward Movements that correlates significantly with Input Anxiety and Processing Anxiety but not with Output Anxiety. This might be attributed to the overlap between Input and Processing anxiety scale items.

Processing. Eight variables represent the processing stage. Based on previous research (MacIntyre & Gardner, 1989; Tobias, 1986) it was expected that anxiety would be associated with longer latencies for most of the tasks and with less accurate translation. Five of the eight correlations involving processing anxiety were significant.

The time spent studying the pairs in the paired associates learning task was significantly, positively correlated with processing anxiety over both the initial trials ($r = .27$, $p < .01$) and the later trials ($r = .20$, $p < .05$), variables (14) and (17) respectively. The time spent on the first testing of the pairs (15) was also significantly, positively correlated with processing anxiety ($r = .24$, $p < .05$). The time spent on the second test (20) was not significantly correlated with anxiety ($r = .13$, n.s.).

In addition to the latency variables, two performance scores represent the processing stage. The (12) Paragraph Translation Score was significantly correlated with Processing anxiety ($r = -.51$, $p < .01$). The (33) French Achievement Test was also significantly, negatively correlated with processing anxiety ($r = -.65$, $p < .01$).

Neither the (11) Paragraph Translation Time nor the (9) Cloze Test Latency correlate significantly with processing anxiety. Both of these tests had a five minute time limit and most subjects took the full five minutes. It is possible that a longer time limit would have allowed the more confident students to finish early and that five minutes was insufficient to provide such a discrimination.

The correlations of Input Anxiety and Output Anxiety follow the same pattern as Processing Anxiety for five of the eight variables. The exceptions are for (15) Pairs Test Time-1 and (14) Study Time-1 that correlate significantly with Processing Anxiety and Input Anxiety but not with Output Anxiety. The overlap between Input and Processing anxiety scale items might also be responsible for this pattern of correlations. The other exception is for (17) Study Time-2 that correlates only with Processing Anxiety.

Output. A total of sixteen variables represent the output stage. Most previous studies have employed output variables (MacIntyre & Gardner, 1991a) and it is expected that output anxiety will correlate with scores on these tasks. Fourteen of the sixteen tasks show the expected correlation.

The most broad-based measure included in this study is (34) Grades in French. This variable showed a strong negative correlation with Output anxiety ($r = -.51$, $p < .01$). Course grades represent the accumulated effects of language anxiety over time and may be the most salient variable for the subjects in the study because it the most formal means of evaluation. They are, however, based on a collection of

measurements taken throughout a school year and it is therefore more difficult to isolate the specific anxiety processes. Horwitz et al. (1986) also note that course grades may be associated with other forms of anxiety, including Test anxiety.

The more specific tasks also show the expected effects of anxiety. A significant negative correlation was observed between output anxiety and the number of items that (23) Overlap the English and French versions of the self description ($r = -.25$, $p < .01$). The (22) French Self Description Length was also negatively correlated with output anxiety ($r = -.36$, $p < .001$); however a nonsignificant correlation was observed between output anxiety and the (21) English Self Description Length ($r = -.04$, n.s.).

Ratings were also made on the quality of the descriptions. Anxious students were judged to have lower (28) French Fluency ($r = -.41$, $p < .001$), less (29) French Sentence Complexity ($r = -.50$, $p < .001$), and spoke with less of a (27) French Accent ($r = -.42$, $p < .001$). The only rating for the English description that reached significance suggested a tendency for anxious students to show lower ratings of (25) English Sentence Complexity ($r = -.21$, $p < .05$).

Taken together, the results from the self descriptions suggest that anxious students tended to produce shorter descriptions in French and were less able to provide the same items in both languages. It would appear that the anxious students avoided repeating certain portions of their self descriptions in French. Further, the lack of a correlation between output anxiety and the length of the English description indicates that more anxious and less anxious students tended to produce English descriptions of comparable length. Although the quality of spoken French seems to be harmed by anxiety, this effect does not appear to apply to the comparable English tasks.

A significant correlation also was found between Output anxiety and scores on the (31) French Categories test ($r = -.24$, $p < .01$) As

expected, there was no association with performance on the (32) English Categories test ($r = .05$, n.s.). This seems to indicate that language anxiety interferes with a student's ability to retrieve appropriate second language items from memory, but not native language items. These findings replicate the results of earlier studies by MacIntyre and Gardner (1989, 1991b).

A significant, negative correlation was observed between the (10) Cloze Test Score and Output anxiety ($r = -.49$, $p < .01$). As with the French Categories Test, this effect likely results from anxiety interfering during the search for appropriate items from memory.

Scores on the first test of paired associates learning (16) showed a negative correlation with Output anxiety ($r = -.21$, $p < .05$) in spite of the positive correlation between Processing anxiety and the time spent studying those pairs. This evidence indicates that anxious subjects tend to spend more time studying but, nevertheless, achieve lower scores than the more relaxed students.

Following the second presentation of the pairs, scores on the (19) second paired associates test were not significantly correlated with Output anxiety ($r = -.08$, n.s.). It was observed earlier that Processing anxiety was associated with a greater amount of time spent studying the pairs over both sets of trials. These results seem to indicate that anxious students are capable of showing high levels of achievement, given sufficient time and repetition (Tobias, 1986). Furthermore, the time taken to complete the paired associate test follows the pattern of correlating with anxiety when performance was correlated with anxiety and showing a nonsignificant correlation with anxiety when test scores were not correlated with anxiety. This data supports Eysenck's (1979) suggestion that extra effort is able to compensate for the interference created by the presence of anxiety and the effect seems to extend to test taking behaviour as well (see Sarason, 1986).

The correlations involving the other two stage-specific anxiety scales are highly similar to those involving Output Anxiety. Only one of the sixteen measures did not show the same pattern of significance levels for correlations with Input, Processing, and Output. The measure of (25) English Sentence Complexity, showed a significant correlation with Input Anxiety but not Processing Anxiety. Significant correlations were not expected for this measure and it is the only measure of English language performance to correlate with these anxiety scales.

Integration. The discussion of the results has focused on the correlations between a given stage-specific anxiety scale and performance variables associated with the same stage. However, in most cases (30/35), the correlations of all three stage-specific anxiety scales follow the same pattern; either all three scales correlate with a given performance variable or none of the three correlate with that variable. This finding might be attributed to the strong correlations among the Input, Processing, and Output anxiety scales. The methodological links between the performance variables measured at different stages might also lead to similar patterns of correlations among the three stage-specific anxiety scales. It would be more surprising to find sharp distinctions among the stages using the present methodology, especially considering the continuous nature of the stages of learning.

Nevertheless, some evidence of discriminant validity was obtained from a confirmatory factor analysis, which was conducted using the LISREL 7 microcomputer package (Jöreskog & Sörbom, 1989). This analysis attempted to fit a six factor model, with three anxiety factors (Input, Processing, and Output) and three performance factors (Input, Processing, and Output). This will allow for analysis of the potential correlations among the anxiety and performance dimensions.

Several variables were excluded from this analysis before it was conducted. All of the measures of performance taken in English were excluded in order to define the factors in terms of second language performance only. One variable, the (5) French Recognition score for the T-Scope program, was excluded because the variable had a very small amount of variance. Similar problems were encountered with both the (9) Cloze Test time and (11) Paragraph Translation time. These variables were excluded because the five minute time limit placed on both tests restricted the variance in the measure. Other variables were excluded because they represented repeated measures of variables included in the analysis (the data from (17) Study Time-2 and (20) Pairs Test Time-2 were excluded). Finally, (34) Grades in French was excluded because it is the most difficult variable to classify using Tobias' model.

The confirmatory factor analysis proceeded using the remaining variables. In order to define the three anxiety factors, the input, processing, and output anxiety measures served as single indicators of the anxiety aroused at each stage of learning. The performance factors each had multiple indicator variables. One of the variables defining the Output Performance factor was obtained by aggregating the ratings of the French Self Description (27-30) and is referred to as (35) Speech Quality. The factor loadings for all of these variables are shown in Table 8 along with a maximum likelihood test of significance for the factor loadings.

For the Input Performance factor, significant factor loadings were found for three variables, (3) French digit span and (1 & 2) the two measures of word span. The Processing Performance factor received significant factor loadings from (33) the French Achievement Test, (12) Paragraph Translation Score, and (15) Pairs Test Time-1. All of the variables defining the Output Proficiency factor showed significant factor loadings ((31) French Categories, (35) Speech Quality, (10) Cloze Test score, and (16) Pairs Score-1.

The correlations among the factors are presented in Table 9. The correlation between the Input Performance factor and the Input Anxiety factor was significant and negative (-.24), as was the correlation between Processing Performance and Processing Anxiety (-.76), and the correlation of Output Performance with Output Anxiety (-.65). Inspection of Table 9 also reveals that the Input Performance factor did not show significant correlations with the other two anxiety factors. The correlations of both Processing Performance and Output Performance with all three anxiety factors were significant.

Some discriminant validity is revealed in this analysis. First, it can be observed that each performance factor correlated more strongly with its corresponding anxiety factor than with the other two anxiety factors. Also, the Input Performance factor correlated only with the Input Anxiety factor. These results emerged in spite of the high correlations among the anxiety factors (r's > .65).

This analysis represents an initial attempt to discriminate among the three stages of processing in language learning in terms of the measurement of both anxiety and performance. The scales used to measure the anxiety factors and the majority of the measures of performance at each of the stages were written or adapted for use in this study and improvements can be made for future investigations. Specifically, the reliability of the three stage-specific measures of anxiety should be improved for use in future studies. Also, the performance measures that were excluded from the confirmatory factor analysis could be modified to resolve the problems that led to their exclusion. Nevertheless, the confirmatory factor analysis supports the applicability of the Tobias (1986) three-stage model to second language learning contexts.

Table 8

Confirmatory Factor Analysis Results

	Factor Loadings					
	Input Anx. I	Process. Anx. II	Output Anx. III	Input Perf. IV	Process. Perf. V	Output Perf. VI
Input Scale	1.0					
Processing Scale		1.0				
Output Scale			1.0			
French Digit				.35*		
Backward Movement				.04		
Familiar Word Span				.60*		
Unfamiliar Word Span				.93*		
Extra Pairs				.07		
T-Scope Latency				-.05		
French Achievement					.84*	
Pairs Study Time (1)					.03	
Translation Score					.78*	
Pairs Test Time (1)					-.45*	
French Categories						.36*
Speech Quality						.41*
Cloze Test Score						.74*
Pairs Score (1)						.54*

Note: * $p < .05$

Table 9

Correlations among the Factors
from the Confirmatory Factor Analysis

	Input Anx.	Process. Anx.	Output Anx.	Input Perf.	Process. Perf.	Output Perf.
Input Anx.	-					
Process. Anx.	.74*	-				
Output Anx.	.65*	.71*	-			
Input Perf.	-.24*	-.19	-.16	-		
Pro. Perf.	-.66*	-.76*	-.63*	.34*	-	
Output Perf.	-.61*	-.63*	-.65*	.34*	.95*	-

Note: * $p < .05$

Implications

The results of this study support previous ones in showing that language anxiety tends to correlate with measures of performance in the second language but not in the native language (Gardner, 1985; Horwitz et al. 1986; MacIntyre & Gardner, 1989, 1991b). This study also replicates the findings of previous studies showing that global assessments of proficiency, such as course grades and standardized achievement tests, are negatively associated with anxiety (Horwitz, 1986; Gardner, Smythe & Lalonde, 1984; MacIntyre & Gardner, 1991a). It should be noted that the correlations of anxiety and these two measures are the strongest correlations observed between the anxiety measures and any of the variables included in this study. These results are especially noteworthy for language teachers because they suggest that language anxiety is strongly associated with widely used indices of achievement.

The more specific tasks can be analyzed using Tobias' model in order to examine the roots of these effects. Eysenck (1979) suggests that increased effort can compensate for the effects of anxiety on the quality of observed performance. According to Eysenck, most research has concentrated on the quality of performance and assumed that the degree of effort remains relatively constant. The present study demonstrates that anxiety is associated with both increased effort and reduced performance and that these two effects are interrelated. In terms of Tobias' model, for example, increased activity at the processing stage can have a beneficial effect on performance at the output stage. While activity at the processing stage cannot be observed directly, it seems reasonable to assume that subjects who are performing more cognitive operations at the processing stage will take longer to complete a given task.

In the present study, the Word Span, Cloze Test, Paragraph Translation, Self Descriptions, Thing Category and French Achievement

tests required subjects to respond in a fixed amount of time. Under these conditions, increased effort at the processing stage (in the form of taking longer to complete the task) was not possible and anxiety was negatively correlated with performance quality at the output stage on all of these tests. A similar mechanism seems to underlie the findings observed with the T-Scope task where anxiety was correlated with longer latencies to categorize the words but was not associated with increased errors. In this case, increased effort at the processing stage seems to have compensated for the effects of anxiety and thus no correlation between categorization errors and anxiety was observed.

Similar results occurred for the Paired Associates Learning task. Neither scores on the second test nor the time required to complete it were correlated with anxiety. Anxiety was, however, associated with increased time spent in studying the pairs throughout the learning trials. The increased effort at the processing stage throughout the learning trials appears to have reduced the effects of anxiety at the output stage. In each of these cases, the effects of anxiety are observed for either the time variable or the performance variable, indicating that the stages are interdependent.

Other tasks included in this study, indicative of the output stage, might also reflect the influence of anxiety at earlier stages. For example, the degree of overlap in the French and English self descriptions may be lower for anxious subjects because they simply avoid the more difficult linguistic structures in this relatively unstructured output task. Kleinmann (1977) found evidence that anxious language learners tend to avoid difficult phrases. As an alternative explanation, it is also possible that anxious students lack the vocabulary to repeat items in both languages. This vocabulary deficit may be attributable, at least in part, to anxiety aroused during previous attempts at vocabulary learning.

The confirmatory factor analysis suggests that it is possible to distinguish the three stages and that anxiety seems to influence performance at each of them. The attempt to measure anxiety at each stage separately met with some success, although further scale development is required to improve the psychometric properties of the measures. The absence of more clearly defined stages might be attributable to the scales used to measure anxiety, the tasks used to measure performance, and/or the continuous nature of the underlying process of learning and production.

Summary

This study demonstrates that anxiety is correlated with performance at all three stages of processing and that these stages are interdependent. That is, if anxiety is associated with increased effort, task performance may not be impaired. This suggests that, if given an opportunity to compensate for deficits at one stage, the effects of anxiety can be ameliorated at the performance (output) stage. A full test of this proposal was not possible in the current study because no single task could be followed from the input stage through to the output stage. It would further strengthen this interpretation if the effects of anxiety could be demonstrated experimentally rather than with correlational data. These are the objectives of Study 3.

CHAPTER 4

Introduction to Study 3

The two previous studies examined the correlations between various scales of language anxiety and performance on a wide variety of tasks. Most investigations of language anxiety have taken a similar approach (MacIntyre & Gardner, 1991a). This type of study is best suited to examine language anxiety as a stable personality characteristic, after it has developed. The results of correlational studies are not as well suited to making causal inferences as are experimental studies wherein anxiety is manipulated by the experimenter. The present study will attempt to employ experimental methodology by arousing anxiety at different stages of second language vocabulary learning. Tobias' (1986) model provides specific predictions about the effects of anxiety arousal at different points in the learning process.

The Tobias (1986) model views learning situations as comprising three stages: input, processing, and output. As applied to the language learning situation, the input stage involves the recognition of spoken or written words. If anxiety is aroused at this time, internal reactions may distract the individual's attention, fewer stimuli may be encoded into memory, and repeated exposure to the task may be necessary to compensate for the effects of anxiety. At the processing stage, incoming messages are understood and learning occurs as new words are given meaning. If anxiety is aroused at this stage, the necessary connections between first and second language material may fail and both learning and comprehension will suffer. Finally, during the output stage, second language material is produced in the form of either spoken or written messages. Anxiety arousal at this stage may lead to ineffective retrieval of appropriate vocabulary or grammar rules or a failure to respond at all. The distinctions among these stages are especially useful in locating the source of performance deficits

(particularly at the output stage) that may be traced back to one of the earlier stages of learning.

One manner in which anxiety has been induced in previous studies is by using a video camera to record subjects (Cook, 1985; Cotton, Baron, & Borkovec, 1980). Plant and Ryan (1985) argue that the presence of a video camera leads to increased self-related cognition, possibly as a result of increased levels of anxiety. Scheier and Carver (1983) suggest that a video camera will increase an individual's awareness of himself/herself and heighten concern over the impression that others will form. Therefore, introduction of a video camera appears likely to increase social anxiety.

The video camera has been used to arouse anxiety in studies of second language students. Steinberg and Horwitz (1986) aroused anxiety in one group of subjects by treating them in an unfriendly manner and videotaping their performance in the second language. A second group was made to feel relaxed by treating them warmly and not videotaping their production. The experimental task required the description of ambiguous scenes in the second language. Subjects in the anxiety group were found to be significantly less interpretive in their comments than the more relaxed subjects. Their anxiety reduced their willingness to risk providing an interpretation and possibly using less familiar linguistic structures (see also Kleinmann, 1977).

Somewhat conflicting results were obtained in a study by Gardner, Day, & MacIntyre (1992). That study showed that the videotape recorder, in itself, did not produce an anxiety reaction. The study involved a computerized paired associates learning program similar to that from Study 2. All subjects were treated in the same way by the experimenter, except that one group of subjects was videotaped and the other was not videotaped. No difference in learning was found between the two groups. Furthermore, the subjects who were videotaped did not show elevated levels of self-reported anxiety.

Two discrepancies between these two studies should be noted. First, the anxiety levels may be dependent, in part, on the interaction between the subjects and the experimenter. In the Steinberg and Horwitz study, treating subjects coolly, as opposed to warmly, may have aroused anxiety, decreased motivation, or both. A more likely possibility is that the demand to communicate orally, in conjunction with the video camera, led to the increased anxiety. As MacIntyre and Gardner (1989, 1991c) argue, the communicative demands of the second language arouse the most anxiety because of such factors as self-presentation problems, perfectionist attitudes, and the expectation of failure. The computerized learning task in the Gardner et al. (1992) study did not require communicative performance and therefore may not have aroused much anxiety.

The present study will test the effects of anxiety arousal on the three stages of learning described by Tobias (1986). A computerized paired associates learning task will be adapted to isolate the three stages of processing. In order to arouse anxiety, subjects will be videotaped at different points during the study corresponding to each of the three stages. In order to strengthen the effects of the anxiety manipulation, a communicative demand will also be introduced for all subjects prior to the vocabulary learning trials.

Method

Subjects

Seventy-two subjects were recruited by telephone from class lists of French 021 courses. Each participant was paid seven dollars ($7). Subjects were all currently enrolled in French 021.

Materials

The materials required for this study included a questionnaire assessing various types of language anxiety, measures of state anxiety, a paired associates learning task, language performance measures, a computer system, video equipment, and audio equipment. Appendix D presents the questionnaire and the subjects' response sheets used in this study.

Questionnaire Contents

Five language anxiety scales were employed. All scales were comprised of an equal number of positively and negatively keyed items.

French Class Anxiety (α = .85). The ten-item version of this scale was used.

French Use Anxiety (α = .86). The ten-item version of this scale was used.

Input Anxiety (α = .77). This eight-item scale included two additional items written for the present study.

Processing Anxiety (α = .71). This eight-item scale included two additional items written for the present study.

Output Anxiety (α = .71). This eight-item scale included two additional items written for the present study.

State Anxiety

The anxometer (MacIntyre & Gardner, 1991b) was employed at several points during the study as a measure of state anxiety. The anxometer was presented in two forms, a computerized version and a paper-and-pencil version. The computerized anxometer was presented as a thermometer-style figure on the computer screen. Subjects could cause the anxiety level shown on the screen to "rise" and "fall" using the up and down arrow keys respectively. The "up" arrow caused the thermometer to fill in one line at a time while the "down" arrow erased lines from

the screen. This version of the anxometer has a range of scores from 0 to 16. Anxometers were presented four times during the computerized paired associates learning trials and once following responses to questions about the new vocabulary items.

The other version of the anxometer was presented on a sheet of paper with six thermometer-shaped figures, one corresponding to each of six experimental tasks that followed the paired associate learning task. Subjects saw the anxometers under a heading that indicated the task to which they corresponded (e.g. "French Digits"). Following MacIntyre and Gardner (1991b), this version of the anxometer was presented using a 10-point scale.

Performance Measures

Paired Associates. Nineteen pairs of English-French nouns were chosen as the learning materials from Desrochers (1980). These pairs were taken from the set used in previous studies (Gardner & MacIntyre, 1991; MacIntyre and Gardner, 1989). It has been shown that these pairs are largely unfamiliar to most subjects.

Three tasks were also included in this study order to assess the effects of anxiety arousal on different types of tasks. Each of these tasks was completed in both English and in French. These tasks will be referred to as "intervening tasks" because they were administered after the paired associates learning and prior to tests of delayed recall of the pairs.

Digit Span. The digit span test used in Study 2 was included in the present study with two modifications: (1) the strings of numbers varied in length from six to nine digits and (2) a second set of digits was administered in French only. Prior to data analysis, the two scores on the French digit span were added together and divided by two to form a score comparable to that of the English digit span. As in Study 2, the number of digits written in their correct position from the French

and English recordings were counted yielding measures of French Digit Span and English Digit Span.

Thing Category Test. The six categories given in Study 2 were repeated in this study. The number of correct categorical elements in each language provided measures of French Categories and English Categories.

Self Description. Subjects were asked to describe themselves for one minute in both French and English (as in Study 2). In order to facilitate overlapping descriptions, subjects completed the description first in English and then in French. For the French version, subjects were encouraged to repeat as many elements as possible of the English description. For all subjects, the self descriptions were recorded on a cassette tape recorder located next to the computer. An independent judge counted the number of statements produced by the subject in each language (i.e., the length of the self descriptions) and rated them on the same dimensions as in Study 2. The measures taken from the English self-description were Length, Fluency, Accent, Sentence Complexity, and Depth. For the French description, measures of Length, Overlap, Fluency, Accent, Sentence Complexity, and Depth were taken.

Computer System

The learning trials were conducted using an IBM-compatible micro-computer. Responses were typed on the keyboard. The timing and order randomization for the pairs were done internally by the computer system. The program was written using the BASIC programming language and compiled using the QUICKBASIC package. The timing routines were adapted from Graves and Bradley (1988) who suggest that the routines can be used to approximate millisecond timing.

Video Equipment

A video camera and a video cassette recorder (VCR) were used to record the subject's responses as part of the anxiety-arousing conditions. The camera was set on a tripod at approximately a 45 degree angle to the subject. The camera was also attached to a video monitor so that the subjects could view themselves while they worked. The monitor directly faced the subject and was located behind and above the computer screen. Prior to its use, the camera was hidden from the subjects' view by a screen. At no time did the camera record the subjects without their knowledge. All subjects agreed to the introduction of the camera during the testing session.

Audio Equipment

All subjects' oral responses were recorded using a standard cassette recorder equipped with an external microphone. A second cassette player was used to present the Digit Span, Thing Categories, and Self Description tasks.

Procedure

The first experimental task was to complete the two-page questionnaire of anxiety scales. The video camera was not discussed with the subject until the camera was introduced during the learning task and therefore was not present when the anxiety scales were completed. The camera was hidden from the subject's view until it was activated.

Following the completion of the questionnaire, subjects were directed to the computer. Subjects were told that the instructions would appear on the screen, and they were encouraged to ask any questions before beginning the trials. Complete instructions for the learning trials were presented on the computer screen.

Before beginning the learning trials, all subjects were informed that they would be required, at a later time, to use the words that they were about to learn. Specifically, they were told that "... we will ask you to use these words later on in the study." This was intended to introduce a demand to communicate that would be expected to arouse some anxiety in all subjects. Following this instruction, the baseline computerized anxometer was completed.

Anxiety Arousal

At the outset of the study subjects were randomly assigned to one of four experimental groups according to the point in the study at which the camera would be introduced. The camera was not introduced to one group of subjects (Control group). The other three groups were exposed to the camera prior to the Input, Processing or Output stages. It was assumed that the introduction of the camera at a given stage would arouse anxiety at that stage. When the camera was activated, subjects were told that "... we want to record your reactions to the program while you are learning the words." The camera was positioned and the video equipment was turned on. The camera remained in position for the duration of the study and was not turned off until the final task had been completed.

Paired Associates

The second task involved computerized paired associates learning. The learning task itself had three stages, intended to correspond to each of the three stages of processing.

Input Stage. The purpose of the input stage was to provide subjects with their initial exposure to the French stimuli. After reading the instructions for the Input stage, subjects rated their current level of anxiety using the computerized anxometer (Input anxometer). At this stage, 19 French nouns were presented, one at a

time, on the computer screen and subjects viewed them at a predetermined rate of one noun every 1.5 seconds. The order of the items was randomized separately for each trial making the sequence of each trial unique both within and across subjects. Each of the items was presented two times and all items appeared once before any were repeated.

Following this stage, subjects completed a recognition task. In this task, 38 items were presented, 19 of which had been seen and 19 of which had not been seen. The prompt "Did you see this one?" appeared below each item. The subject responded by typing a "1" or a "2" corresponding to "yes" or "no." The number of items recognized (Input score) and the response latency were recorded by the computer.

Processing Stage. For the paired associates, the processing stage requires that the new French nouns be given meaning and stored in memory; i.e., the meaning of the French nouns is learned. After reading the instructions for the processing stage, subjects rated their current level of anxiety using the computerized anxometer (Processing anxometer). The pairs were then presented at a fixed rate of one pair every 2.5 seconds and the order of the pairs was unique both within and across subjects. Two presentations of each pair were made and none were repeated until all had been shown once.

A recognition task followed this stage. In addition to the 19 correct pairs, 19 other pairs were formed at random with the restriction that each of the items could be used as a distracter only once. As with the previous recognition test, subjects were asked "Did you see this one?" and responded by typing a "1" or a "2" corresponding to "yes" or "no." The number of pairs recognized (Processing score) and their latencies were recorded by the computer.

Output Stage. The output stage involves the production of the second language, although the tasks employed here actually involved elements of all three stages. After reading the instructions for the

output stage, subjects rated their current level of anxiety using the computerized anxometer (Output anxometer). They were then given four trials. Within each trial, each of the 19 English nouns was presented at the top of the computer screen followed by the prompt "Translation?". The computer measured the time taken to view the English word before beginning a translation (Viewing Time). A limit of 10 seconds was imposed, after which the program requested the translation. At this point the subject began typing a translation. The computer scored each response, giving one point for a response that matched the stimulus and no points for a failure to match the stimulus. Subjects could choose not to attempt a response by pressing the RETURN key, which also received a score of zero. No time limit was imposed on typing the responses. This stage is referred to as "Output" because the total number of correct responses generated over the four trials (Output score) is the primary variable of interest.

Following the subject's response, the correct pair was presented for study for up to 10 seconds. The computer recorded the time spent studying the pair (Study Time). To move on to the next item, subjects pressed the RETURN key and were presented with another English stimulus. If the 10 second time limit was exceeded, the message "Too much time" appeared on the screen and the program proceeded to the next English stimulus. A total of four trials, each involving the 19 paired associates, was presented.

Intervening Tasks

Before testing subjects' delayed recall of the paired associates, five experimental tasks were administered following the learning trials described above. Three of the tasks were used in Study 2: Digit Span, Thing Categories, and Self Descriptions. All three of these tasks were completed in both English and French. Following the self descriptions, subjects were asked to complete the paper-and-pencil version of the

anxometers. Each of the tasks that were presented following the paired associates learning task was represented on the page of anxometers. English and French versions were rated separately yielding six Anxometer scores, one each for French Digits, English Digits, French Categories, English Categories, French Self Description, and English Self Description.

Memory for the Paired Associates

Questions. Following the paper-and-pencil anxometer ratings, attention was directed back to the paired associates. The fourth task combined elements of the Processing and Output stages. Subjects were asked to respond to 19 French questions presented by computer. Each question was appropriately answered with an item from the list of paired associates and subjects were instructed to use those items and generate the best possible responses. Subjects were given a 20 second time limit in which to respond before the computer moved to the next question. Subjects could choose to move on to the next question at any time by pressing the RETURN key. Responses were recorded on the cassette tape, and the computer registered the response latency. The responses were scored as follows: two points for a correct response given in an appropriate sentence, one point for an incorrect response (including failure to respond in sentence form), and no points if the subject failed to respond in the 20 seconds. The final anxometer was administered following the last question.

Recognition Test. The final task, associated with the Input stage, involved the recognition of the paired associates. A list of 38 French nouns was presented on paper, and subjects identified those words included in the learning trials by placing a check mark beside those that were recognized. The same 19 incorrect alternatives presented during the Input phase were used during this task as well.

Following this task, subjects were thanked for their participation, paid the subject fee ($7), asked to sign a receipt, and were given a "feedback sheet" describing the study. Subjects were encouraged to ask questions following the study and were provided with the name and phone number of the experimenter. Finally, the scores on the computer tasks were displayed on the computer screen and were discussed with the subject.

Results and Discussion

The primary purpose of this study was to examine the effects of induced anxiety on the performance during the learning trials and other tasks (Digit Span, Thing Categories, Self Description, and memory for the pairs). The results obtained from this analysis may be influenced by pre-existing levels of language anxiety, as was evident in other studies (e.g. MacIntyre & Gardner, 1991a). Therefore, prior to assessing the effects of the anxiety arousal conditions, correlation coefficients were computed between the measures of language anxiety and the performance variables available from this study. These correlations were analyzed in order to determine the specific tasks that were correlated with anxiety.

Correlational Analyses

The correlations presented in Table 10 are the combined within-cells correlations between the anxometer ratings and various performance measures with the stage-specific language anxiety scales. The alpha level for the tests of significance of these correlations was set at .05, using one tailed tests. This procedure was followed because the learning program variables are being tested for the first time and a less conservative approach was taken to evaluating the significance of the correlations in this study. It was anticipated, however, that the

Table 10

Within Cells Correlations of Anxiety Scales with Dependent Measures

	Anxiety		
	Input	Processing	Output
Computerized Anxometers			
Baseline	.26*	.30*	.36**
Input Stage	.34**	.39**	.37**
Processing Stage	.29*	.38**	.38**
Output Stage	.33**	.36**	.42**
Questions	.38**	.39**	.55**
Other Anxometers			
English Digits	.04	.02	.15
French Digits	.18	.14	.25*
English Categories	-.07	-.07	.11
French Categories	.05	.05	.17
English Self Descript.	.19	.04	.22*
French Self Descript.	.42**	.30*	.44**
Learning Program Performance			
Input Score	-.29*	-.24*	-.35**
Processing Score	-.19	-.29*	-.25*
Output Score	-.32**	-.32**	-.41**
Recognition Memory	.02	-.02	-.03
P.A. Questions Score	-.20*	-.18	-.24*
Learning Program Latencies			
Input Time	-.09	-.11	-.04
Processing Time	.06	-.01	.03
Output Time			
Viewing Time	-.04	-.16	.04
Typing Time	.06	-.02	.22*
Study Time	.14	.10	.29*
P.A. Questions Time	.28*	.38*	.34*
Intervening Tasks			
Digits			
French	-.12	-.04	-.14
English	-.05	.05	-.03
Categories			
English	.37**	.36**	.19
French	-.04	-.10	-.38**
Self Descriptions			
French Length	-.22*	-.21*	-.30**
English Length	.11	.06	-.02
Overlap	-.09	-.18	-.15
English			
Fluency	-.13	-.21*	-.21*
Accent	-.12	-.07	-.21*
Complexity	.20*	.15	.01
depth	.08	.03	-.12
French			
Fluency	-.39**	-.50**	-.59**
Accent	-.40**	-.45**	-.54**
Complexity	-.13	.01	-.30**
Depth	-.20*	-.16	-.38**

Note: * - $p < .05$
** - $p < .01$

results would follow similar patterns to those of Study 2 and one tailed tests were conducted for that reason.

Some rather clear patterns emerge. First, the Anxometer ratings made during the learning trials are found to be significantly, positively correlated with all indices of language anxiety. Therefore, the data suggest that those who experience greater levels of language anxiety also tend to experience anxiety during the learning trials. The Anxometer ratings corresponding to the intervening tasks, however, did not tend to correlate with these scales, with the exception of the French Self Description Anxometer.

The performance measures tended to show negative correlations with the corresponding anxiety scales. The learning program performance measures representing the scores for the input, processing, and output stages were each correlated significantly, negatively with the corresponding stage anxiety scale (Input $r = -.29$; Processing $r = -.29$; Output $r = -.41$, p's $< .05$). Recognition Memory for the pairs following the intervening tasks was not significantly correlated with Input Anxiety. The score on the Paired Associates Questions task was negatively correlated with Output Anxiety ($r = -.24$, $p < .05$). The correlations involving the other stage-specific anxiety measures are also significant, with two exceptions (Processing Score with Input anxiety and Final Questions Score with Processing Anxiety), both of which fall just below the .05 alpha level.

Some of the intervening tasks also showed significant correlations with anxiety. The French version of the Categories test was significantly, negatively correlated with Output Anxiety ($r = -.38$, $p < .01$) but not with Input Anxiety or Processing Anxiety. On the other hand, the English Categories score that is significantly, positively correlated with Input ($r = .37$, $p < .01$) and Processing anxiety ($r = .36$, $p < .01$) but not with Output anxiety. This latter result is an anomaly that has not been observed in other studies, including Study 2

(see MacIntyre & Gardner, 1989, 1991b) that tend to show no correlation between language anxiety and performance in the native language. The English Self Description also produced anomalous results in that four of the twelve correlations between the ratings of English speech quality and the stage-specific anxiety scales were significant.

The number of items produced in the French Self Descriptions was significantly correlated with Output Anxiety ($r = -.30$, $p < .01$) as were the ratings of Fluency ($r = -.59$, $p < .01$), Accent ($r = -.54$, $p < .01$), Complexity ($r = -.30$, $p < .01$), and Depth ($r = -.38$, $p < .01$) of the French description. Input Anxiety and Processing Anxiety both correlate significantly with the length of the French self description as well as its fluency and accent. Also, Input Anxiety was correlated with the Depth of the French description and neither Input Anxiety nor Processing Anxiety were correlated with Sentence complexity.

Other intervening tasks showed nonsignificant correlations with anxiety. There was a nonsignificant correlation between all three measures of anxiety and the degree of Overlap between the two self descriptions, possibly owing to the change in instructions that encouraged such overlap. Performance on the Digit Span task, in both English and French, also was not significantly correlated with any of the measures of anxiety.

Although significant correlations are obtained between anxiety and scores on the various tasks, the computer timing of responses taken during the paired associates learning program did not tend to correlate significantly with any of the anxiety scales. Two exceptions were observed for the correlation of Output Anxiety with both Study Time ($r = .29$, $p < .05$) and Typing Time ($r = .22$, $p < .05$). These results suggest that individuals who are anxious about communication tend to study longer and to take longer to type their responses. The measure of response time taken during the Paired Associates Questions task was significantly correlated with Processing Anxiety ($r = .38$, $p < .01$)

suggesting that students with higher levels of anxiety tended to take longer to respond to the questions.

The analysis of these correlations supports the findings of the two previous studies contained in this dissertation. Performance at each of the three stages was correlated negatively with anxiety at its corresponding stage. Performance on the Categories test and the Self Description in French was also negatively correlated with anxiety, as in Study 2. The Digit Span test, however, was not found to be sensitive to the effects of anxiety in either this study or study 2. MacIntyre and Gardner (1991b) found a significant correlation between digit span and language anxiety among subjects who were no longer learning French.

Although the performance at these stages seems to have been impaired by anxiety, the timing measures tended not to be associated with anxiety. In general, this suggests that anxiety does not influence the processing stage but does influence the output stage on these tasks.

The main exception to this trend occurs for the most anxiety provoking task, Paired Associates Questions. In this case, both the performance measure (score) and the processing measure (time) show a correlation with anxiety. This suggests that anxiety influences both processing effectiveness and processing efficiency. It appears that, for less anxiety-provoking tasks, a correlation will be observed for either the performance measure or the latency measure, but not both. For more anxiety-provoking tasks, a correlation may be observed on both types of measures.

Effects of the Manipulation on Anxiety Ratings During the Paired Associates Tasks (Including the Delayed Memory Tasks)

The first Analysis of Variance will examine the anxiety-arousing effects of the video camera. In order to investigate the effects of group membership on anxiety arousal, a 4 X 5 Split Plot Analysis of

Variance (ANOVA) was performed on the five computerized Anxometer scores (Trials), four of which were obtained for learning trials plus the anxometer score for Paired Associates Questions.

Results show a significant Multivariate effect for Trials (Pillais = .55, exact F (4,65) = 19.72, $p < .01$). It should be noted that a significant increase in anxiety was observed during the Paired Associates Questions task for all four groups. A significant Group by Trials interaction was also observed (Pillais = .55, approximate F (12,201) = 3.77, $p < .01$). The interaction appears to be the result of significant increases in anxiety immediately following the introduction of the video camera in the three experimental groups (see Figure 2).

Planned comparisons (four t-tests) showed that the final anxometer score, obtained following the questions task, was significantly higher than the baseline anxometer score for all four groups (all $t's > 5.2$, $p's < .01$). Results indicate that responding to the questions was more anxiety provoking than the learning trials for all four groups. These results are consistent with previous studies (Horwitz et al., 1986; MacIntyre & Gardner 1989, 1991c) that suggest that oral communication is the most anxiety provoking second language activity.

The second source of the interaction appears to result from introduction of the video camera. Three planned comparisons were performed to examine the elevation in anxiety immediately following the introduction of the camera as compared to the baseline trial. In all three experimental groups, t-tests revealed that the anxiety level increased significantly when the camera was introduced (all $t's > 2.3$, $p's < .05$). For the Control group, post hoc tests (Newman-Keuls) revealed no significant differences among the four mean anxometer scores taken during the learning trials ($q's < 3.32$, $p's > .05$). This group experienced a relatively constant level of anxiety throughout the paired associates program.

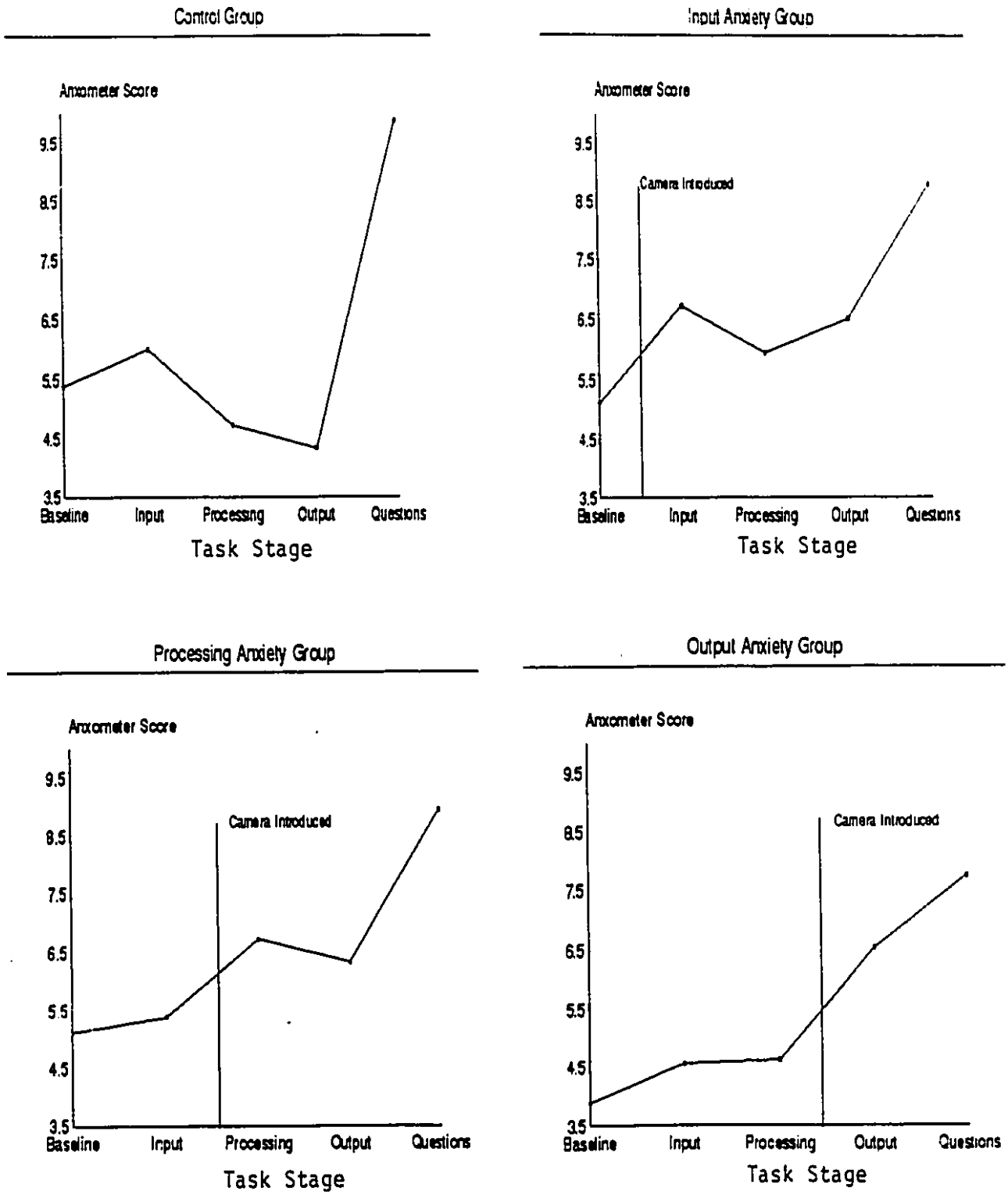

Figure 2 Effects of Manipulation on Anxometer Ratings

These analyses indicate that the video camera had a significant effect on anxiety ratings during the learning trials. The manipulation was successful in arousing anxiety and therefore group assignment is expected to show an effect on the learning trials. In each experimental group, the highest anxometer rating obtained during the learning trials occurs immediately following introduction of the camera. It should also be noted that the anxiety aroused by the communicative demand (questions task) far exceeds the anxiety aroused by the video camera.

Effects of the Manipulation on Paired Associates Learning Variables (Including the Delayed Memory Tasks)

For the learning portion of the study, two types of dependent variables were recorded, performance scores and time measures. The Input score, Processing score and Output score were entered into a Oneway Multivariate Analysis of Variance (MANOVA) to assess the influence of Group. The main effect for Group was significant at the multivariate level (Pillais = .278, approximate $F(9,204) = 2.31$, $p < .05$). Univariate F tests reveal a significant effect for Group on the Processing score ($F(3,68) = 3.40$, $p < .05$) and Output score variables ($F(3,68) = 2.74$, $p < .05$).

Figure 3 presents the data for all three of these measures. It was expected that the three groups who were not exposed to the camera at the input stage would show similar means and these means would be higher than the mean for the Input group. In other words, the input group was expected to show lower scores than the other three groups on the input task. Despite the nonsignificant univariate F test, the observed pattern of means for the Input stage is as expected.

Similar predictions were made for the processing stage. It was expected that the two groups who were exposed to the video camera at the processing stage would not perform as well as the other two groups.

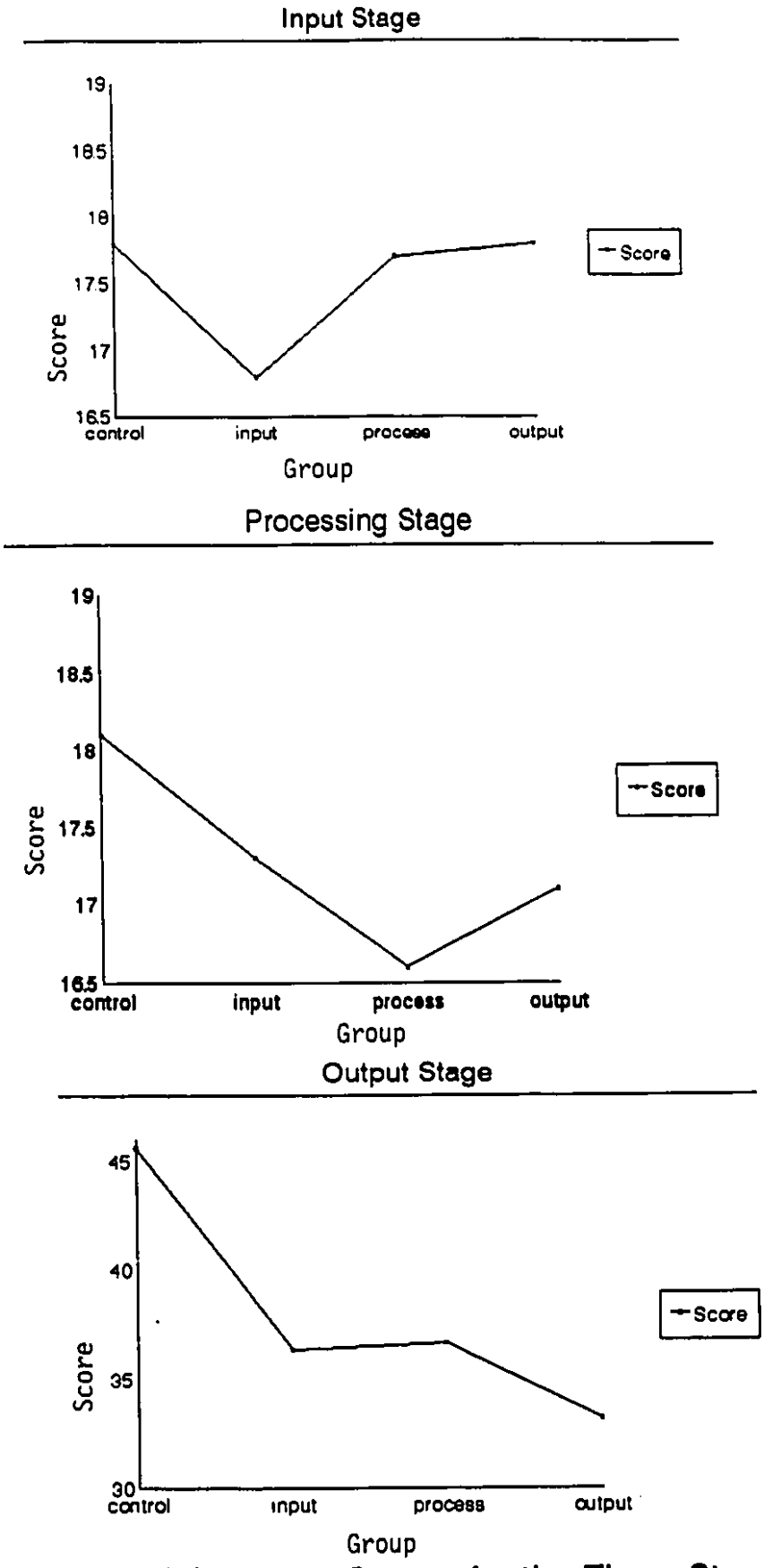

Figure 3: Effects of Group on Scores for the Three Stages

Although the pattern for the processing stage conforms to expectation, the only significant contrast (Newman Keuls) showed that the Control group had significantly higher scores than the Processing group ($q(4,68) = 4.348$, $p < .05$). These results show that the deficit in recognition of the pairs is largest for the group that most recently had anxiety aroused.

For the output stage, it was expected that the means of all three experimental groups would fall below the mean of the Control group. The observed pattern of means conforms to expectation. Using Newman Keuls, the mean score for the Control group is found to be significantly higher than the score for the Output group ($q(4,68) = 3.86$, $p < .05$). The scores for the Input and Processing groups lie in the middle and they are not significantly different from the other two groups. This may reflect some degree of coping on the part of subjects in these groups because the camera has been on longer for them than for the Output group. As with the two previous stages, the lowest score on this task is observed for the group most recently exposed to anxiety.

The other type of variable measured during the learning portion of the study was response time. In order to examine the effects of Group on the time taken to complete the Input, Processing, and Output stages of the study, a Oneway MANOVA was performed. No significant effects for Group were observed at the multivariate or univariate levels.

The final analysis was performed on the two variables representing memory for the pairs; Recognition Memory and Paired Associates Questions scores. A Oneway MANOVA revealed no significant effects for Group at the Multivariate level (Pillais = .132, approximate $F(9, 204) = 1.04$, n.s.). Despite the lack of a significant multivariate effect, the presence of deficits at earlier stages suggested that an examination of the means for these tasks should be conducted. Scores on the recognition task were similar for the Control group ($M = 36.67$), input group (36.67), processing group (35.90), and the output group ($M =$

35.6). The differences among the means appear to be greater for scores on the Questions task. The Control group shows the highest mean score (M = 23.44), followed by the processing group (M = 20.94), the input group (M = 19.39), and finally the output group (M = 18.23). A t-test comparing the mean of the Control group with the mean of the other three groups was marginally significant ($t(70) = 1.96$, $p < .06$). As with the previous analyses of data from the learning program, the group that had anxiety aroused most recently showed the lowest scores on both delayed memory tasks.

In order to discern the implications of all of these analyses, they must be considered in conjunction with the analysis of the anxometers. Together, the results indicate that the presence of state anxiety, as indicated by the anxometers, reduced the effectiveness of cognitive processing at both the processing and output stages. The results at the input stage were in the expected direction as were the results from the delayed memory tasks. The conclusion may be drawn that the arousal of state anxiety negatively influences performance at the processing and output stages.

Effects of the Manipulation and Language of Presentation on the Anxiety Reactions during the Intervening Tasks

The anxiety reactions to each of the three types of tasks that followed the paired associates learning program were analyzed using a 2 X 3 X 4 Split Plot ANOVA, with the factors being Language (2), Task (3), and Group (4). Significant main effects were observed for Language ($F(1,68) = 88.90$, $p < .01$), Task ($F(2,136) = 58.82$, $p < .01$), and the interaction of Language and Task ($F(2,136) = 4.41$, $p < .05$).

The means for this analysis are shown in Figure 4. It is clear that the English tasks are less anxiety provoking than the French ones and that tasks increase in anxiety from the Categories task to the Digit

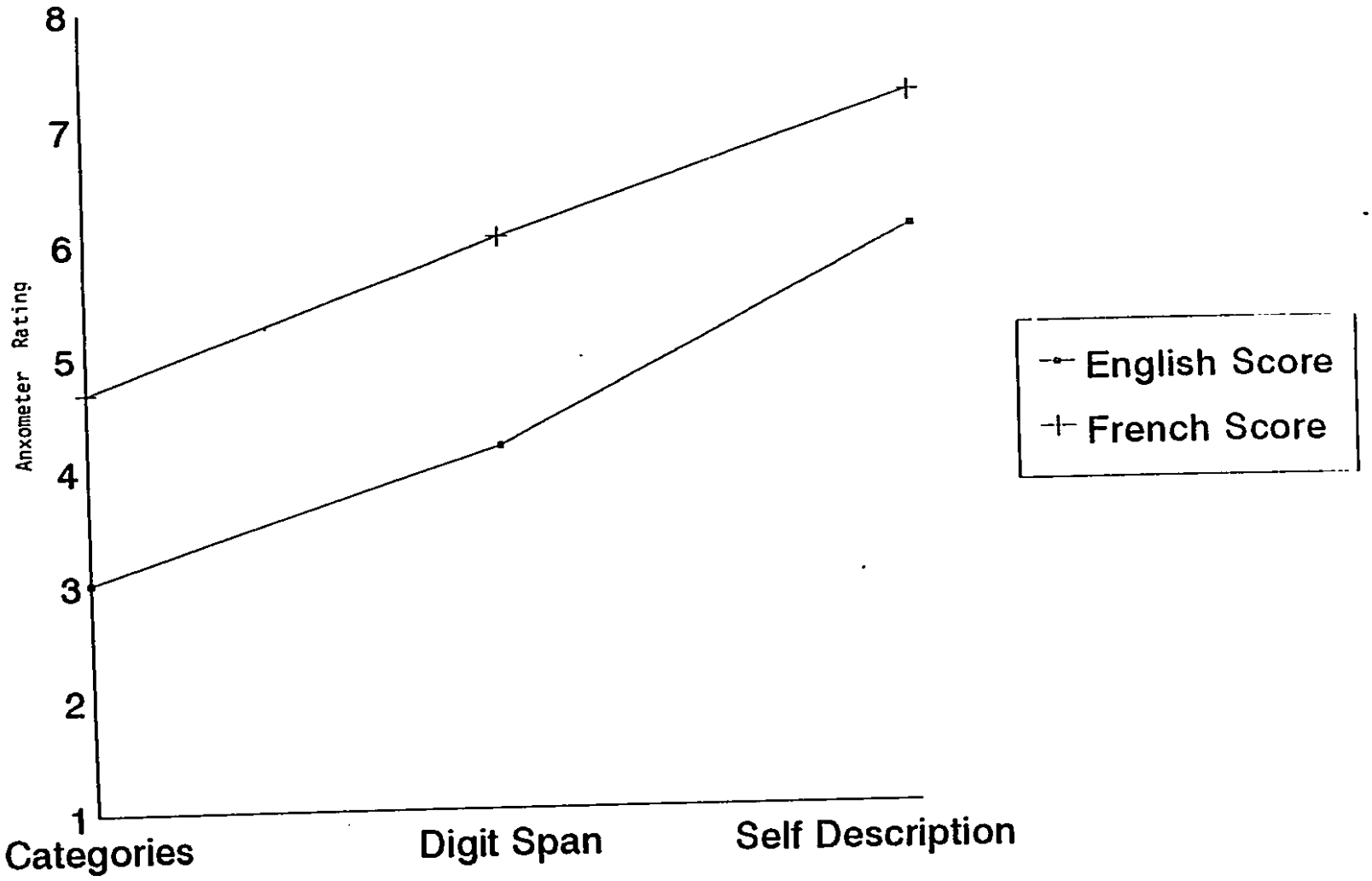

Figure 4: Anxometer Ratings on the English and French Intervening Tasks

Span to the Self Description. The interaction can be explained by noting that the difference between the ratings for the English and French versions of the Digit Span (1.9) decreases for the Categories test (1.6) and further decreases for the Self Descriptions (1.1).

None of the effects involving Group were significant. The use of the video camera did not appear to influence these ratings. Therefore, an effect for Group is not expected to emerge in the analyses involving performance on these tasks.

Effects of the Manipulation and Language of Presentation on the Intervening Variables

Three tasks were administered between the end of the paired associates learning program and the test for delayed memory of the pairs: Digit Span, Categories, and Self Descriptions. All three of these tasks involved production in both English and French and it is expected that an effect for language will be found for all three tasks. However, because similar levels of state anxiety were obtained in all four groups during these tasks, the scores on these tasks are not expected to differ between the groups.

A 2 X 4 Split Plot MANOVA was performed on all three intervening variables using Language (2) as the within subjects factor and Group (4) as the Between subjects factor. A significant Multivariate effect was observed for Language (Pillais = .814, Approximate $F(3,64) = 93.3$, $p < .01$). The effect of Group and the Language by Group interaction were not significant. The effect for Language was examined using planned comparisons.

These t-tests revealed that subjects' digit spans are greater in English ($M = 42.75$) than in French ($M = 34.66$) ($t(71) = 8.39$, $p < .01$). The scores show that performance in English was approximately 25% better than in French. Similarly, on the categories test, subjects evidenced superior performance in English ($M = 38.47$) as opposed to French ($M =$

24.36) ($t(71) = 16.6$, $p < .01$). The difference between languages was much greater for this task as verbal production was over 60% higher in English as compared to French. Finally, for the self descriptions, the English version ($M = 9.86$) was significantly longer than the French one ($M = 7.47$) ($t(69) = 7.81$, $p < .01$), approximately 32% longer.

A further analysis was conducted on the four ratings given to the speech quality: Fluency, Accent, Sentence Complexity, and Depth. The factors for this split plot MANOVA were Language (2) and Group (4). A significant multivariate effect was observed for Language (Pillais = .144, approximate $F(4,64) = 2.69$, $p < .05$). No significant main effect or interactions involving Group were observed. The effect for Language can be explained by noting that the English ratings are higher than the French ratings for Accent ($M = 6.4$ v.s. $M = 4.3$), Fluency ($M = 6.3$ v.s. 4.4), and Depth ($M = 4.0$ v.s. $M = 3.5$) (all t's > 3.02, p's $< .05$) but not for Sentence Complexity ($M = 3.6$ v.s. $M = 3.5$, $t = .603$, n.s.).

The results of these analyses suggest implications similar to the analysis of the paired associates learning data. In this case, however, the camera did not appear to arouse different levels of state anxiety in the groups and, therefore, no effects of group were obtained on the performance variables. Thus, when the camera induced state anxiety, performance declined - when the camera did not induce anxiety, no performance deficits were observed.

Summary

This study attempted to simulate the arousal of anxiety that occurs during actual language learning. Based on much of the previous work done in the area, it may be concluded that anxiety is extremely prevalent in language classrooms (Horwitz & Young, 1991). MacIntyre and Gardner (1989) suggest that anxiety would be expected to arise at different times for different people. It also seems unlikely that the anxiety, once established, would simply go away (Horwitz, 1986). It

would appear more likely that students would begin to cope with the presence of anxiety in the classroom, as they did during the course of this study. Although some coping was evident, the Input and Processing anxiety groups did not show the level of performance evidenced by the Control group on the score for the Output stage. Thus, once a deficit is established, it is difficult to erase, unless given sufficient opportunity (Tobias, 1986).

The absence of an effect for the manipulation on the anxiety ratings during the intervening tasks (Digit Span, Categories, and Self Description) suggests that the subjects were able to cope with the state anxiety aroused by the camera. The camera did not arouse anxiety and performance deficits were not observed on these tasks. It should be noted that the situation-specific measures of anxiety correlated with the scores on the latter two of these tests.

These results support the findings of both Steinberg and Horwitz (1986) and Gardner et al. (1992). In the former study, state anxiety was aroused in one group and their performance suffered on a free speech task as compared to a control group. In the latter study, state anxiety was not successfully aroused and no performance deficits were observed on a paired associates learning task. In the current study, state anxiety was aroused during the paired associates task, but not during free speech, leading to performance deficits on the paired associates but not on the free speech task.

CHAPTER 5

Conclusions and Suggestions for Future Research

There are several conclusions that may be drawn from the results of these studies. Language anxiety appears to be a construct that can be clearly differentiated from other types of learner variables (attitudes, motivation, etc.). Further, this form of anxiety correlates significantly with both self-rated proficiency and objective measures of second language performance. Expanding on this latter effect, language anxiety has been shown to influence the effectiveness of cognitive processing as well as its efficiency. Therefore, the correlation observed between language anxiety and second language performance at the output stage is likely to have its roots in earlier stages of cognitive processing. It would appear that language anxiety affects the input, processing, and output stages and can be measured at each stage. In total, these studies suggest that the potential effects of language anxiety on cognitive processing are more pervasive than suggested by previous research.

At the end of the Introduction to these three studies, it was suggested that if anxiety affects more than the output stage, then the conceptualization, measurement, and remedy for language anxiety should reflect those influences. Data from the studies described in this dissertation have both addressed these issues and raised new ones.

Conceptualization of Language Anxiety

Implications for Existing Models

In their model of language anxiety, Horwitz et al. (1986) discuss it primarily in terms of communication apprehension, test anxiety, and social evaluation apprehension. They suggest, however, that language anxiety is more than the sum of these three components. The results of the studies presented here indicate that this model might be expanded to include anxiety about the perception and comprehension of second

language material as well, perhaps termed "misunderstanding apprehension." This would reflect the anxiety that occurs at both the input and processing stages where the student fears being left behind during oral communication, reviews written words extensively, expends more effort during study, and avoids attempting linguistic structures in the second language of which he/she is uncertain.

The studies reported here might also be relevant to the manner in which language anxiety is conceptualized in Gardner's (1985) socio-educational model. Study 1 examined the relation between language anxiety and other learner variables included in that model. By providing multiple measures of those constructs, it was shown that language anxiety can be separated from the constructs Integrativeness, Attitudes toward the Learning Situation, Motivation, and Instrumental Orientation. Future research on the socio-educational model should include language anxiety and test for its association with other variables in the model.

In particular, future research should examine the relationship between anxiety and motivation. Gardner (1985) suggests that motivation facilitates language learning, in part, by increasing the effort expended by language students, and a large body of empirical evidence supports this claim. On the other hand, Eysenck (1979) suggests that anxious students will expend more effort to compensate for the negative influence of anxiety, and the present studies support that claim. Based on suggestion that effort is associated with both anxiety and motivation, future research should investigate the link between them.

The results of Study 1 show that language anxiety is not significantly correlated with motivation. Although null results must be cautiously interpreted, other studies have suggested that anxiety and motivation might be separate dimensions, each with its own influence on language learning (Gardner, Day & MacIntyre, 1992). This distinction has its roots in the discussion of facilitating and debilitating anxiety

which have been considered as separate dimensions (Alpert & Haber, 1960). Gardner et al. (1992) demonstrate the similarities between the conceptualization and measurement of facilitating anxiety and motivation, suggesting that motivation is the more suitable label for the construct. Theoretically, if motivation and anxiety are different factors, some students will be both highly motivated and highly anxious, others will be highly motivated and non-anxious, and so on. The nonsignificant correlation between anxiety and motivation observed in Study 1 is consistent with this assertion.

One would expect that proficiency levels would show the effects of the interplay between anxiety and motivation. If a student is high on both dimensions, their facilitating and debilitating effects may cancel each other out because, despite the large amount of effort, cognitive processing is impaired. Highly motivated students who experience little anxiety would be expected to perform best because the increased effort due to motivation is not hindered by the negative effects of anxiety. Highly anxious students who have little motivation (such as those required to take a second language course as a degree requirement) would be expected to perform least well. The studies reported here have not addressed this type of effect and future research would profit from such consideration.

These studies might also be relevant to the way in which language anxiety is conceptualized in Clément's (1980; 1987) model. Clément views self confidence as being based on a combination of low levels of language anxiety and positive self-perceptions of proficiency. The strong negative correlations between anxiety and subjective proficiency ratings observed in Study 2 replicate similar findings by Clément and associates (Clément & Krudenier, 1985; Labrie & Clément, 1986). Clément's model, developed in bilingual communities where both the native and second languages are prominent in everyday life, proposes that the frequency and quality of contact with native speakers of the

second language will lead to self-confidence. During relaxed, pleasant contact, the language learner perceives himself/ herself as being competent and proficient. Unpleasant, anxiety-provoking contact leads to a decline in self-confidence. Clément's model might also be applied to unilingual language communities.

The manner in which this association is established in unilingual settings, where the second language is learned primarily in the classroom setting, might be based on a similar process. The student views his/her communication as more or less effective and then judges the extent to which he/she is proficient in the second language. The results of the present studies indicate that a lack of language anxiety increases the chances of effective processing and communication. Thus, if language anxiety disrupts the communication process, self-ratings of proficiency will suffer; if not, self-rated proficiency should not suffer. Based on the diaries of second language students, Cohen & Norst (1989) claim that the language teacher plays a critical role in determining the student's affective reaction to a language course, in a manner similar to the role played by the second language group in Clément's model. Future research might focus on the teacher as the representative of the second language group and examine the importance of the teacher's role in the development of language anxiety.

Implications for Situation-Specific Anxieties

The links observed between anxiety and the stages of learning in Studies 2 and 3 may have implications for the conceptualization of anxiety as a situation-specific construct. In the Introduction to this dissertation, it was suggested that language anxiety represents the probability of experiencing state anxiety in the presence of demands to use the second language. This might explain the effects observed in the present studies. Based on the results of Study 3, we see that when state anxiety is aroused, performance on second language tasks suffers

but when not aroused, no performance deficits are observed. Thus, the active interference seems to arise from state anxiety.

By implication, such a model suggests that state anxiety may be the only form of anxiety that is relevant to task performance. This is a reasonable suggestion if one reduces anxiety to self-related cognition, the content of which would be similar in many situations. For example, a student who repeatedly tells himself "I can't do this" could be referring to learning French, doing calculus, or dissecting a frog. The cognition itself is the same in all of those situations and similar effects on processing effectiveness would be expected. It might be suggested, therefore, that state anxiety reflects the presence of negative self-related cognition.

Situation-specific anxiety constructs can be seen to refer to the probability of experiencing state anxiety and the concomitant disruptions in processing. State anxiety is more useful in explaining the effects of anxiety than it is in predicting them because it simply indicates that anxiety was aroused at a particular time. Language anxiety, communication apprehension, test anxiety, and other situation-specific constructs are most useful in determining those individuals most likely to experience state anxiety in a given situation. They might also reflect deficits created at earlier stages of processing that become manifest during communicative or testing situations, as was indicated for language anxiety in the studies reported here.

It has been argued that situation-specific anxiety constructs, such as language anxiety, are most useful in predicting the arousal of state anxiety in a given situation. Although this hypothesis is supported by the results of the studies reported here, other investigations have shown mixed results when the correlation between state anxiety and performance in the second language is considered (MacIntyre & Gardner, 1991b; Young, 1986). Based on a cross-lag panel

analysis, MacIntyre & Gardner (1989) conclude that it is likely that poor performance causes state anxiety.

It should be noted that all of those studies used a multiple-item questionnaire of state anxiety, not the anxometers. It is possible that they do not provide comparable measures of anxiety because the questionnaire takes longer to complete than the anxometer. Moreover, one could argue that it is necessary to have a measure of state anxiety that can be completed rapidly in order to observe such effects. This must be balanced against the need to develop reliable measures. Clearly, more research is required, but an appropriate first step would seem to be a study of the relation between state anxiety questionnaires and the single-item anxometer measures. Thus, future research would be required to fully examine this issue.

Another implication for situation-specific anxieties concerns the specificity of the situation under consideration. In Studies 2 and 3, language anxiety was defined on a more specific level (input, processing, and output) than has been done previously (e.g., language classroom anxiety) in an attempt to more precisely describe the stage at which language anxiety influences performance. In essence, each stage-specific scale attempts to define the language learning situation more precisely. To the extent that anxiety tends to arise at all three stages, the three scales should be highly correlated among themselves. Theoretically, it would be possible to combine the three scales into a single measure of language anxiety that encompasses the three stages of learning. The definition of the situation adopted by a researcher, educator, or language learner, may need to be more or less precise depending on the phenomenon under consideration.

Implications for the Measurement of Language Anxiety

The three stage-specific anxiety scales, developed in Studies 2 and 3, suggest that such an approach to the measurement of anxiety might

be advantageous. Some evidence for the reliability of the three stage-specific anxiety scales was obtained in Studies 2 and 3 along with support for the construct, predictive and discriminant validity of these three scales.

The alpha reliabilities for the stage-specific scales, in both Study 2 and Study 3, reached acceptable levels, although they were somewhat lower than the reliability coefficients observed for the existing measures of language anxiety. The new scales might be improved by adding additional items to each of the measures. Future research should also examine the test-retest reliability of these measures.

The stage-specific scales also show some evidence of being valid measures. In terms of the construct validity of the scales, it was shown that existing scales of French class anxiety correlate most strongly with the Output Anxiety scale. This was the predicted relationship because the existing scales focus on speaking which is considered to be an output task. In terms of predictive validity, a significant correlation was observed between the stage-specific scale and performance measures at that stage in the majority of cases. In Study 3, Processing Anxiety and Output Anxiety correlated more highly with the score for the associated stage than did other anxiety scales. Finally, the confirmatory factor analysis performed in Study 2 showed that each performance factor was more highly correlated with the anxiety factor representing the same stage than with anxiety factors representing other stages.

The absolute degree of discrimination between the stage-specific anxiety scales and their effects on second language performance is not substantial. In Studies 2 and 3 the general tendency was for all three stage-specific anxiety scales to correlate similarly with each of the performance measures. Considering that the distinctions among the stages are somewhat arbitrary (Tobias, 1986) and that they represent a continuous process, sharp discrimination was not expected.

The benefit of examining the language learning process in terms of these three stages lies in the realization that the effects of language anxiety apply to more than just the output stage. A major implication of this finding is that anxious students would be expected to develop a smaller base of knowledge as they proceed through a language course and the effects of anxiety accumulate over time. This type of process might be responsible for the substantial correlations between language anxiety and course grades observed in Studies 1 and 2. By examining more specific tasks and processes, the pervasive nature of the effects of anxiety can be identified.

Studies 2 and 3 demonstrate the effects of anxiety arousal at each of the three stages of second language acquisition on specific tasks, using correlational and experimental procedures respectively. The correlations suggest that anxiety was associated with cognitive deficits. The experimental study demonstrated that anxiety arousal at a given stage of learning can create deficits in cognition at that stage. Future research may improve on both the anxiety scales and the performance tasks representing each of the stages to better assess this relation. In any event, it appears that the measurement of anxiety at each of the stages might be useful in addressing the source of some language learning difficulties.

Implications for Remedial Action

Many language educators are interested in reducing the effects of language anxiety (Crookall & Oxford, 1991). The majority of the strategies used to reduce anxiety are most applicable to the output stage, reflecting the emphasis of previous research on that stage. Eysenck (1979) notes that anxiety influences more than the quality of observed performance, the time and effort spent should be considered as well. The results of the current studies indicate that, even in cases

where anxiety is not significantly correlated with overt performance, it may still exert an influence on other stages of language learning.

It is encouraging to note that ancillary results obtained in the present studies are fairly consistent in suggesting that the negative effects of anxiety can be reduced. For example, with the paired associates learning task in Study 2, the extra effort made by more anxious students eventually compensated for the deficits created by anxiety. Similarly, the French T-Scope in Study 2 showed that the number of errors was not correlated with anxiety but the time needed to categorize the word was positively correlated with anxiety. In these cases, the effects of anxiety were observed at the processing stage but not the output stage indicating a reduction in processing efficiency. In other cases the effects were not observed at the processing stage but did emerge at the output stage. For example, in Study 3 the group with the poorest performance on the Output task was the Output group who had recently had anxiety aroused after the processing stage.

The three-stage model may have additional implications when an attempt is made to reduce the effects of language anxiety. In the literature on communication apprehension in the native language, several approaches have been taken to understanding its development, most of which seem to focus on the output stage (see Daly, 1991; McCroskey, 1982). The results of the present studies indicate that basic learning deficits can be created by language anxiety suggesting that future efforts to reduce anxiety should also address these deficits. As seen in Study 3, anxiety arousal at different stages will influence performance in different ways. For instance, anxiety aroused at the input stage reduces the amount of information that is entered into the processing stage and anxiety at the processing stage can impair the learning of new items and the recall of previously learned items. This suggests that anxiety at these earlier stages will leave the anxious individual with a smaller base of knowledge in the second language than

that available to the more relaxed students. Attempts to address language anxiety among these people should also address their cognitive and potential skills deficits as well. The stage-specific anxiety scales developed here might be useful in isolating the source of difficulties.

In conclusion, it can be seen that language anxiety appears to exert a pervasive influence on the language learning process. The concerns of language educators and students about the negative effects of language anxiety appear to be well founded. Although past research experienced some difficulty in demonstrating the effects of anxiety, recent research has not only been able to demonstrate these effects empirically, but has also begun to explain them. The present studies show that its effects on cognition can be observed at all stages of learning, not just on overt performance tasks. This is a necessary first step in developing ways of dealing with the substantial amount of anxiety aroused by the language learning process. The present studies also show that its effects can be substantially reduced.

Future research will undoubtedly serve to illustrate the important role of language anxiety in second language acquisition and communication. As research into language anxiety progresses,

> ... the overwhelming intricacy of these intertwining systems should not deter us from the task of trying to discover natural patterns and continuities, for, at the very least, we will realize even more profoundly and with even deeper respect than before, the marvellous act that our students so subtly perform in front of us day by day, the act of inheriting someone else's language and culture (Scovel, 1978, p. 141).

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Appendix A

QUESTIONNAIRE FOR STUDY 1

French Proficiency Measures

Please answer the following questions:

1. Do you speak a language, other than English, fluently? Yes___ No___

2. If "yes", which language(s)? _____

3. Have you spent any time in a French speaking country or region?

   Yes___ No___

4. If "yes", please answer the following:

   How long? _____ When? _____

5. Which of the following best describes your French language training?

   ___ a. Regular (core) French program, consisting of 30-150 minutes per week starting in elementary school.

   ___ b. Early immersion, studying most subjects in French from kindergarten to Grade ___

   ___ c. Late immersion, beginning to study most subjects in French later during elementary school from Grade 5 or Grade 7 onwards.

   ___ d. Other. Please describe. _____

   _____

6. Which French courses are you taking now?

   ___ French 020 ___ French 021

   Section Number: _____

- -

This section will be removed after the questionnaire is coded

Please print

Name _____ _____
Surname Given names

In the French passage on the next page some of the words have been left out. First, read over the entire passage and try to understand what it is about. Then, try to fill in the blanks. It takes exactly one word to fill in each blank. If you are not sure of the word that has been left out, guess. First consider the following example.

"D'habitude je rentre à _____ heures et je regarde _____ télévision.

To fill in the blanks correctly you have a choice for the first blank, where "cinq", "six" or any other number word would make sense, but you have no choice for the second blank, where only "la" is correct. Be sure to read over the whole passage first. This will help you to decide how to fill in the blanks.

On the next page is the beginning of a story set during a war between France and Germany. Fill in the blanks as quickly as possible. This is a timed test.

Depuis son entrée en France _____ l'armée d'invasion, Walter Schnaffs se jugeait _____ plus malheureux des hommes. _____ était gros, marchait avec _____, soufflait beaucoup et souffrait _____ des pieds qu'il avait _____ plats et très gras. _____ était en outre pacifique _____ bienveillant, père de quatre _____ qu'il adorait et marié _____ une jeune femme blonde. _____ aimait se lever tard _____ se coucher tôt, manger _____ de bonnes choses et _____ de la bière dans _____ brasseries. Il pensait d'ailleurs _____ tout ce qui est _____ dans l'existence disparaît avec _____ vie; et il avait _____ coeur une haine instinctive _____ raisonnée pour les canons, _____ revolvers et surtout pour _____ baïonettes, se sentant incapable _____ manoeuvrer assez vite cette _____ rapide pour défendre son _____ ventre.

If you finish, please do not go on until you are asked to do so

THING CATEGORY TEST

This is a test to see how many things you can think of that are alike in some way.

Below is an example of things that belong to the category "véhicule". Look at the example. It can be seen that one word is used to describe each thing in a category.

le train
l'automobile
l'avion
la bicyclette

Your score will be the number of correct things you write in French. Go ahead and write all the things you believe are part of the following categories.

"fruit"	"partie du corps"	"vêtement"

If you finish, please do not go on until you are asked to do so.

In this test you are to write a few paragraphs about a given theme. You are to write all you can about the theme. Use any idea whether or not it seems very closely related to the theme. Expand on any ideas as much as you like.

For example, if the theme is "l'hiver" (winter), you may write a paragraph like the following:

L'hiver au Canada est une saison où il faut s'habiller chaudement afin de ne pas prendre froid. Par contre, c'est le temps idéal de faire des sports tels que le ski de fond et le ski alpin. (...)

Your score on this test will be related to the amount of appropriate material that you write.

The theme is "ma première semaine à l'université" (my first week at university). Write all you can about this topic. If you run out of space, write on the back of this page.

French Achievement Test

Please do not turn the page
until you are asked to do so.

I - GRAMMAIRE

DIRECTIONS: Read carefully each question and its numbered answers. When you have decided which answer is correct, circle the number beside the answer you have selected. A dash (--) means that no additional word is needed.

Choisissez la forme convenable de l'article.

1. ... universités sont des établissements d'enseignement supérieur.
   1. Le
   2. La
   3. L'
   4. Les
   5. --

2. ... Brésil est un grand pays.
   1. Le
   2. La
   3. L'
   4. Les
   5. --

3. Il est ... honte de sa famille.
   1. le
   2. la
   3. l'
   4. les
   5. --

4. J'ai mangé une omelette ... fines herbes.
   1. à les
   2. des
   3. aux
   4. de
   5. à

5. Cela demande ... temps.
   1. du
   2. de
   3. de la
   4. de le
   5. des

6. Il manque ... persévérance.
   1. du
   2. la
   3. de la
   4. --
   5. de

7. Ils ont ... beaux enfants.
   1. du
   2. de
   3. de les
   4. les
   5. des

Choisissez la forme convenable de l'adjectif

8. C'est une porte ... .
   1. secrete
   2. secrète
   3. secret
   4. secrette
   5. secrètte

9. J'ai rencontré un ... ami.
   1. vieille
   2. vieux
   3. vieu
   4. vieil
   5. viel

10. C'est une de mes expressions ... .
    1. favorie
    2. favories
    3. favorittes
    4. favorites
    5. favorite

GO ON TO NEXT PAGE

Choisissez la forme convenable parmi les noms suivants.

11. Nous commandons des ... .
    1. gateaux
    2. gâteaus
    3. gataux
    4. gâteau
    5. gâteaux

12. L'enfant ramasse des ... .
    1. caillous
    2. cailloues
    3. cailloux
    4. caillou
    5. caillouxs

13. Il ignorait les ... .
    1. déteaux
    2. détaux
    3. détailes
    4. détails
    5. détailles

Choisissez le ou les pronom(s) personnel(s) qui remplace(nt) les mots soulignés.

14. Nous sommes allés <u>à l'église</u>.
    1. en
    2. à elle
    3. la
    4. y
    5. l'

15. Aimez-vous <u>les pâtisseries</u>?
    1. l'
    2. leur
    3. en
    4. les
    5. leurs

16. Avez-vous donné <u>l'argent</u> <u>à votre frère</u>?
    1. lui en
    2. le lui
    3. la lui
    4. leur en
    5. y en

17. Il donne <u>du pain</u> <u>au mendiant</u>.
    1. le lui
    2. le en
    3. lui en
    4. y en
    5. leur en

18. J'ai dit <u>aux garçons</u> d'entrer.
    1. l'
    2. leur
    3. les
    4. leurs
    5. lui

Choisissez l'adjectif possessif, le pronom possessif ou le pronom démonstratif remplaçant les mots soulignés.

19. Voici mon stylo et le <u>stylo</u> de Jean. Voici mon stylo et ... de Jean.
    1. celle
    2. celui
    3. le sien
    4. celui-ci
    5. de lui

20. Ces robes-ci sont jolies, <u>ces robes-là</u> ne le sont pas. Ces robes-ci sont jolies, ... ne le sont pas.
    1. celles-là
    2. ces-là
    3. ceux-là
    4. celles
    5. celle-là

21. Je préfère ma maison à <u>leur maison</u>. Je préfère ma maison à ... .
    1. la mienne
    2. leur
    3. la leur
    4. d'eux
    5. la tienne

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Choisissez le pronom, l'adjectif ou l'adverbe interrogatif qu'exige la réponse

22. C'est Louis.
... des cousins est arrivé hier?
    1. Quel
    2. Les quels
    3. Quelle
    4. Lequel
    5. Quels

23. Je pense à mes examens.
... pensez-vous?
    1. Que
    2. Quoi
    3. À qui
    4. À quoi
    5. De quoi

Choisissez le pronom relatif convenable

24. Tu sais ce ... va arriver.
    1. qui
    2. que
    3. dont
    4. lequel
    5. quoi

25. J'ai trouvé l'hôtel ... vous cherchiez.
    1. pour lequel
    2. pour qui
    3. qui
    4. dont
    5. que

26. Je ne sais pas ... il s'agit.
    1. de quoi .
    2. de ce que
    3. de que
    4. dont
    5. sur quoi

27. Le restaurant près ... je l'ai vu est loin d'ici.
    1. de qui
    2. de lequel
    3. de quoi
    4. dont
    5. duquel

28. C'est le monsieur ... Jean a épousé la soeur.
    1. de laquelle
    2. de que
    3. de qui
    4. dont
    5. de lequel

Choisissez la préposition convenable

29. Les élèves entrent ... la classe.
    1. --
    2. en
    3. dans
    4. dedans
    5. à

30. Elle doit aller ... le dentiste.
    1. au
    2. vers
    3. à
    4. chez
    5. pour

31. Il a vécu ... Angleterre.
    1. à
    2. à l'
    3. au
    4. en
    5. dans

32. Il est temps ... partir.
    1. à
    2. pour
    3. de
    4. en
    5. --

33. Il s'habitue ... travailler.
    1. de
    2. pour
    3. à
    4. afin de
    5. --

GO ON TO NEXT PAGE

34. Neuf fois ... dix, il est incapable de répondre.
    1. dans
    2. sur
    3. hors de
    4. hors
    5. de

Choisissez la forme convenable

35. Il se tenait ... haute.
    1. leur
    2. sa tête
    3. sa tête à lui
    4. son tête
    5. la tête

36. Elle ne sait pas ... désire.
    1. qu'elle
    2. qu'est-ce qu'elle
    3. ce qu'elle
    4. quoi elle
    5. est-ce qu'elle

37. Le fromage coûte un dollar ... .
    1. une livre
    2. à la livre
    3. par livre
    4. pour un livre
    5. la livre

38. Il étudie chaque jour ... quatre heures.
    1. plus des
    2. plus
    3. plus de
    4. plus que
    5. plus les

Choisissez la forme correcte du présent de l'indicatif

39. ...-nous des devoirs?
    1. Aurions
    2. Avont
    3. Avions
    4. Avons
    5. Ayons

40. Elle ... chaque jour.
    1. viens
    2. venait
    3. vienne
    4. vient
    5. vint

41. Tu ... cette histoire mieux que moi.
    1. racontes
    2. raconte
    3. raconté
    4. racontés
    5. racontent

Choisissez la forme correcte du passé composé (passé indéfini)

42. Nous ... leur invitation.
    1. ayons accepté
    2. sommes acceptés
    3. avons accepté
    4. avons acceptés
    5. avions accepté

43. Elle ... à deux heures.
    1. est sortie
    2. a sorti
    3. a sortie
    4. a eu sorti
    5. est sorti

44. Je ... en lui.
    1. n'ai pas crû
    2. n'eus cru pas
    3. n'ai pas crus
    4. n'ai cru pas
    5. n'ai pas cru

Choisissez la forme négative correcte

45. Vous l'a-t-il donné?
    Non, ...
    1. il ne me l'a donné
    2. il ne me l'a donné pas
    3. il me le n'a pas donné
    4. il ne me l'a pas donné
    5. il me l'a pas donné

46. Le leur a-t-il dit?
    Non, ...
    1. il ne le leur a dit
    2. il ne le leur a dit pas
    3. il le leur n'a pas dit
    4. il ne le leur a pas dit
    5. il le leur a pas dit

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Choisissez la forme correcte du participe passé

47. Ils se sont ... de nos larmes.
    1. moqué
    2. moquée
    3. moqués
    4. moquées
    5. mocqués

48. Mes cousines sont ... pour Paris.
    1. parti
    2. partis
    3. partie
    4. parties
    5. partient

49. Je n'oublierai pas les soins que j'ai ... de vous.
    1. reçus
    2. recevu
    3. recevus
    4. reçues
    5. reçu

Choisissez la forme correcte du verbe

50. Elles chantent en ... .
    1. marchant
    2. marche
    3. marchent
    4. marcher
    5. marchants

51. Quand il était jeune, il ... les sports.
    1. aimerait
    2. eut aimé
    3. aime
    4. aimait
    5. ait aimé

52. Vous viendrez me voir quand vous ... de retour.
    1. êtes
    2. étiez
    3. seriez
    4. aurez été
    5. serez

53. Si je le ..., je lui parlerais.
    1. connais
    2. connaissais
    3. connaîtrais
    4. connaîtrai
    5. connaîs

54. Quand il fait beau l'été, nous ... .
    1. voyagions
    2. voyagons
    3. voyagerons
    4. avons voyagé
    5. voyageons

55. Je désire que vous ... voir votre soeur.
    1. allez
    2. aillez
    3. alliez
    4. ailliez
    5. irez

II - VOCABULAIRE

Choisissez la forme convenable

56. Le drapeau américaine a cinquante ... .
    1. figures
    2. barres
    3. pieds
    4. étoiles
    5. Etats

57. Nous marchons côte ... côte.
    1. à
    2. par
    3. à la
    4. en
    5. de

58. Cela m'est ... .
    1. égal
    2. semblable
    3. pareil
    4. la même
    5. uniforme

59. En entendant ces mots, il fondit en ... .
    1. peur
    2. larmes
    3. peine
    4. désespoir
    5. joie

60. Je me rends ... qu'il pleut.
    1. après
    2. compte
    3. avant
    4. évidence
    5. pourvu

Choisissez le nom désignant l'action exprimée par le verbe souligné

61. ... est l'action de se promener.
    1. La promenade
    2. Le promontoire
    3. Le promeneur
    4. Le promenoir
    5. La promeneuse

62. ... est l'action de fabriquer.
    1. Le fabricant
    2. Le fabriquation
    3. La fabrique
    4. Le fabricateur
    5. La fabrication

63. ... est l'action de jouer.
    1. La joute
    2. La joue
    3. Le jeu
    4. Le jouet
    5. Le joueur

64. ... est l'action de courir.
    1. La courre
    2. Le courrier
    3. La course
    4. Le coursier
    5. Le cours

Choisissez les verbes correspondant aux mots soulignés

65. ..., c'est faire une promesse.
    1. Promesser
    2. Promettre
    3. Promitter
    4. Prometter
    5. Promire

66. ..., c'est être prévoyant.
    1. Prévoyer
    2. Prévoyancer
    3. Prévoir
    4. Prévoire
    5. Prévenir

67. ..., c'est devenir mûr.
    1. Mûrir
    2. Mûrer
    3. Emmurer
    4. Murer
    5. Mûrrir

68. ..., c'est faire souffrir de la faim.
    1. Faimer
    2. Famer
    3. Affaimer
    4. Affamer
    5. Afamer

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Choisissez le ou les mot(s) qui exprime(nt) le contraire logique du mot souligné

69. Celui qu n'est pas pour moi est ... moi.
    1. avec
    2. sans
    3. opposé
    4. contre
    5. proche de

70. Est-ce que le froid augmente? Non, il ... .
    1. rapetisse
    2. diminue
    3. cesse
    4. arrête
    5. s'amoindrit

71. Je me demande s'il a tort ou ... .
    1. mal
    2. raison
    3. correct
    4. retors
    5. droit

72. Après tant de fatique, il lui faut un long ... .
    1. sommeil
    2. repas
    3. repos
    4. répit
    5. reste

Choisissez l'adverbe correspondant à l'adjectif souligné

73. Ce fut un accueil gracieux. Elle nous a accueillis ... .
    1. gracieuxment
    2. gracieuxement
    3. gracieusement
    4. gracieussement
    5. gracieusemment

74. Il en est fou. Il l'aime ... .
    1. follement
    2. fouement
    3. foument
    4. folment
    5. follemment

75. Il est toujours très élégant. Il est toujours très ... vêtu.
    1. élégantement
    2. élégantment
    3. élégancement
    4. élégamment
    5. éléganment

76. Il a été très patient dans ses explications. Il a expliqué les choses très ... .
    1. patientement
    2. patiemment
    3. patientment
    4. patiement
    5. patienttement

Choisissez le nom qui désigne les habitants des villes ou des pays suivan

77. Les ... habitent Paris.
    1. Parisians
    2. Parisans
    3. Parisins
    4. Français
    5. Parisiens

78. Les ... habitent l'Espagne.
    1. Espanols
    2. Spaniques
    3. Espagnais
    4. Espagnois
    5. Espagnols

GO ON TO NEXT PAGE

79. Les ... habitent le Danemark.
    1. Danemarkois
    2. Danishes
    3. Nordiques
    4. Danois
    5. Danais

80. Les ... habitent Montréal.
    1. Montréalois
    2. Montréalers
    3. Montréaliens
    4. Montréalais
    5. Montréalans

Choisissez la forme convenable

81. Cet acte dénote du courage.
    C'est un acte ... .
    1. couragible
    2. courageux
    3. courageable
    4. encourageant
    5. couragique

82. Ce procédé a rapport à la chimie. C'est un procédé ... .
    1. chimeux
    2. chimal
    3. chimique
    4. chimable
    5. chimible

83. Cet homme est ridicule.
    C'est un être ... .
    1. risable
    2. risible
    3. riseux
    4. risal
    5. risique

84. Ce geste est propre au théâtre.
    C'est un geste ... .
    1. théâtreux
    2. théâtral
    3. théâtrable
    4. tragique
    5. théâtrique

Choisissez l'adjectif qui remplace l'expression soulignée

85. Un remède qui fait effet est un remède ... .
    1. effectif
    2. efficient
    3. influent
    4. efficace
    5. affectant

86. Des frères qui ont exactement le même âge sont des frères ...
    1. jumeaux
    2. semblables
    3. fraternels
    4. identiques
    5. jumelés

87. Une rétribution qu'on paye tous les mois est une rétribution ...
    1. manuelle
    2. mansuelle
    3. mensuelle
    4. mestrielle
    5. semestrielle

88. Un journal qui paraît tous les jours est un journal ... .
    1. journalier
    2. régulier
    3. hebdomadaire
    4. quotidien
    5. permanent

Choisissez l'expression correcte

89. Je vous ... une visite demain.
    1. ferai
    2. offrirai
    3. donnerai
    4. paierai
    5. remettrai

90. Avant de ... une décision, il faut réfléchir.
    1. décider
    2. poser
    3. assumer
    4. prononcer
    5. prendre

GO ON TO NEXT PAGE

91. Je ... à l'université tous les matins.
    1. marche
    2. vais à pied
    3. marche à pied
    4. rends à pied
    5. me promène à pied

92. J'ai fait ... pour cet emploi.
    1. une application
    2. application
    3. demande
    4. une demande
    5. une pétition

Remplacez le mot souligné par un verbe d'un sens plus précis

93. L'ouvrier fait une maison au bord de l'eau.
    1. construit
    2. installe
    3. érige
    4. élève
    5. établit

94. L'enfant a un beau nom.
    1. choisit
    2. adopte
    3. porte
    4. reçoit
    5. donne

95. Le ministre dit un remarquable discours.
    1. donne
    2. prononce
    3. énonce
    4. présente
    5. offre

Complétez ces proverbes

96. Petit à petit l'oiseau fait ... .
    1. sa vie
    2. sa niche
    3. son nid
    4. sa maison
    5. son travail

97. Les petits ruisseaux font les ...
    1. grands lacs
    2. grands golfes
    3. grandes fortunes
    4. grandes rivières
    5. grands succès

Employez l'expression idiomatique qui convient

98. C'est l'auteur à la mode: c'est l'auteur ... .
    1. en popularité
    2. en vogue
    3. en bonne chance
    4. au succès
    5. en évidence

99. Il est très riche: il est cousu ... .
    1. de fortune
    2. de dollars
    3. d'or
    4. d'argent
    5. de millions

100. Il était trop fatigué: il était à ... .
    1. l'extrême
    2. la fin
    3. bout
    4. l'extrémité
    5. la mort

END OF THE TEST

PLEASE DO NOT GO ON TO THE NEXT TEST
UNTIL YOU ARE ASKED TO DO SO

Can-do Scale

This section is concerned with your perception of your French proficiency. Please read each of the items below and rate how difficult or easy they would be for you to do in French. Use the following scale:

1. Not at all
2.
3. With considerable difficulty
4.
5. With some difficulty
6.
7. Very easily

Feel free to use the entire range from 1 to 7 to rate your ability to do each of the following in French. If you feel that your peformance falls in between two of the labelled points on the scale, indicate this by using the number in between.

1. ____ Understand play-by-play descriptions of sports events (e.g., soccer) on the radio.

2. ____ Fill out a job application form requiring information about my interests and qualifications.

3. ____ Understand movies without subtitles.

4. ____ Understand two native speakers when they are talking rapidly with one another.

5. ____ Tell a visitor how to get to my home from the bus station.

6. ____ In face-to-face conversation with a native speaker who is speaking slowly and carefully to me, tell whether the speaker is referring to past, present, or future events.

7. ____ Talk about my favourite hobby at some length using appropriate vocabulary.

8. ____ Write an advertisement to sell a bicycle.

9. ____ Read and understand magazine articles at a level similar to those found in Time or Newsweek without using a dictionary.

10. ____ Introduce myself in social situations and use appropriate greetings and leave-taking expressions.

11. ____ State and support with examples and reasons a position on a controversial topic (e.g., nuclear safety, environmental pollution).

12. ____ Write a personal letter to someone.

13. ____ Read newspaper "want ads" with comprehension even when many abbreviations are used.

14. ____ On the telephone, understand a native speaker who is speaking to me slowly and carefully (i.e., deliberately adapting his/her speech to suit me).

15. ____ Read personal letters or notes written to me in which the writer has deliberately used simple words and constructions.

16. ____ Read popular novels without using a dictionary.

17. ____ Tell what I plan to be doing 5 years from now using appropriate future tenses.

18. ____ Give simple information about myself (place of birth, composition of family, early schooling).

19. ____ Tell someone how the Prime Minister of Canada is chosen.

20. ____ Read personal letters and notes written as they would be to a native speaker.

21. ____ Understand news broadcasts on the radio.

22. ____ Write down French dictation in class.

23. ____ In face-to-face conversation, understand native speakers who are speaking to me as quickly and as colloquially as they would to another native speaker.

24. ____ Leave a note for somebody explaining where I will be or when I will come home.

25. ____ Make out a shopping list.

26. ____ Tell a friend about something funny that happened to me.

27. ____ On the telephone, understand a native speaker who is talking as quickly and as colloquially as he/she would to another native speaker.

28. ____ Ask directions on the street.

29. ____ Explain why I am late for a date.

30. ____ Buy clothes in a department store.

31. ____ Read highly technical material in a particular academic or professional field with no use or only very infrequent use of a dictionary.

32. ____ Understand newspaper headlines.

33. ____ Tell someone about my present job, studies, or other major life activities accurately and in detail.

LANGUAGE STUDY

You are being asked to complete this questionnaire as part of a project being conducted to investigate the learning of French in Canada. This study is concerned with various ways of measuring opinions about a number of issues associated with learning French, such as attitudes toward French speaking people, feelings about your French course, etc. You will be asked to give your reactions to a number of such items and also to complete a number of tests of French proficiency. We are interested in determining how the different ways of assessing opinions relate to how much French one knows. Your answers to any or all questions will be treated with the strictest confidence.

For the results of this questionnaire to be meaningful, it is important that you be as accurate and as frank as possible in your answers. If you do not want to answer any particular item, you do not have to, however, the usefulness of your questionnaire will be lessened to the extent that you do not answer each item. We, therefore, urge you to answer all items unless it is important to you personally to omit certain ones. If you have difficulties with, or questions about, any of the items, please raise your hand.

We ask you to indicate your name below so that we can match the two sets of testing materials. We want you to realize, however, that your name will be removed from the questionnaire immediately after testing is completed, and all questionnaires will be identified only by a numeric code.

We appreciate your cooperation and realize that you may wish to discuss aspects of this research with those conducting it. If so, please contact Dr. R. G. Gardner, Department of Psychology, who will be pleased to meet with you to answer any questions you may have, and/or suggest articles that are relevant to this area of research.

- -

This section will be removed before the questionnaire is scored.

Name _____ _____
Surname Given Names

Male ___ Female ___

Please read and sign the following statement:

"I understand that participation in this project will not earn any academic reward. I further understand that I may withdraw at any time without suffering any academic penalty."

_____
Signature

RELEASE FORM

One of the purposes of this research is to find out whether scores on the various tests you complete are related to achievement in French as well as to academic achievement in general. Therefore, we would like to have access to your grades this year. If you agree that your final marks may be used for the purposes of this research, please sign the following statement. If you do not wish us to have access to your grades, please do not sign this release.

"I hereby authorize the Registrar of the University of Western Ontario to release my final marks for the year 1989-90 to Dr. R. C. Gardner, Professor in the Department of Psychology, for the purposes of his research. I understand that they will be kept in strict confidence, and that they will not be used for any other purpose."

_____

Signature

_____

Student Number

PART I

Instructions

Following are a number of statements with which some people agree and others disagree. There are no right or wrong answers since many people have different opinions.

Please mark each one of the statements in the left margin according to the amount of your agreement or disagreement by using the following scale:

+1	slight agreement (support)	-1	slight disagreement (opposition)
+2	moderate agreement (support)	-2	moderate disagreement (opposition)
+3	strong agreement (support)	-3	strong disagreement (opposition)

The following sample item will serve to illustrate the basic procedure.

_____ a. The friendship that exists between Canada and the United States is stronger than it has ever been.

In answering this question, you should have written in the number corresponding to one of the alternatives above. Some people would have written in +3 (strong agreement), others would have written in -3 (strong disagreement), while others would have used any of the alternatives in between. Which one you choose would indicate your own feelings based on everything you know and have heard. Note, there is no right or wrong answer.

MI+ 1. I keep up to date with French by working on it almost every day.

FCA- 2. I do not get anxious when I am asked for information in my French class.

FTE+ 3. I look forward to going to class because my French instructor is such a good teacher.

ALF- 4. I find the study of French very boring.

D+ 5. I wish I had begun studying French at an early age.

AFC- 6. By promoting French to the exclusion of English, French Canadians in Quebec have shown that they deserve less, not more, consideration from the rest of Canada.

FCE+ 7. I would rather spend more time in French class and less in other classes.

FUA- 8. It doesn't bother me at all to speak French.

IFL+ 9. I often wish I could read newspapers and magazines in another language.

INT 10. Studying French is important because it will enable me to better understand French Canadian life and culture.

FTE- 11. I don't think my French instructor is very competent.

FCA+ 12. I am sometimes afraid the other students will laugh at me when I speak French.

+1 slight agreement (support) -1 slight disagreement (opposition)
+2 moderate agreement (support) -2 moderate disagreement (opposition)
+3 strong agreement (support) -3 strong disagreement (opposition)

INST 13. Studying French is important because it will give me an edge in competing with others.

FCE+ 14. I enjoy the activities in our French class much more than those of my other classes.

MI- 15. I tend to approach my French homework in a random and unplanned manner.

D- 16. Knowing French isn't really an important goal in my life.

ALF+ 17. Because of Canada's position on bilingualism, I think that all Canadian schools should teach French.

FCA- 18. I feel confident when asked to participate in my French class.

AFC+ 19. French Canadians are a very sociable, warm-hearted and creative people.

IFL- 20. I really have no interest in foreign languages.

INT 21. Studying French can be important for me because it will allow me to meet and converse with more and varied people.

FUA+ 22. I feel anxious if someone asks me something in French.

MI+ 23. I really work hard to learn French.

D- 24. To be honest, I really have little desire to learn French.

FCA+ 25. I get nervous and confused when I am speaking in my French class.

IFL+ 26. I wish I could speak another language perfectly.

AFC- 27. The more I learn about French Canadians, the less I like them.

ALF+ 28. French is really great.

INST 29. Studying French can be important to me because I think it will someday be useful in getting a good job.

FUA- 30. When called upon to use my French, I feel very much at ease.

FTE+ 31. My French instructor is better than my instructors in other subjects.

FCE- 32. My French class is really a waste of my time.

MI- 33. I can't be bothered trying to understand the more complex aspects of French.

D+ 34. I wish I were fluent in French.

AFC+ 35. If Canada should lose the French culture of Quebec, it would indeed be a great loss.

+1 slight agreement (support) -1 slight disagreement (opposition)
+2 moderate agreement (support) -2 moderate disagreement (opposition)
+3 strong agreement (support) -3 strong disagreement (opposition)

ALF- 36. I would rather spend my time on courses other than French.

IFL- 37. Most foreign languages sound crude and harsh.

FTE+ 38. My French teacher has a dynamic and interesting teaching style.

INT 39. Studying French is important because it will allow me to participate more freely in the activities of French Canadians.

FUA+ 40. It would bother me if I had to speak French on the telephone.

FCE- 41. I think my French class is boring.

FCA- 42. I don't usually get anxious when I have to respond to a question in my French class.

MI+ 43. I make a point of trying to understand all the French I see and hear.

FUA+ 44. Speaking French bothers me.

ALF+ 45. I really enjoy learning French.

AFC+ 46. The more I get to know French Canadians, the more I want to be fluent in their language.

FTE- 47. The less I see of my French teacher, the better.

FCA- 48. Students who claim they get nervous in French class are just making excuses.

IFL- 49. Studying a foreign language is not a pleasant experience.

MI- 50. I don't bother checking my corrected assignments in my French courses.

FCE+ 51. If I knew for sure that more advanced French classes would be like the one I'm in this year, I would definitely take more in the future.

D+ 52. I want to learn French so well that it will become second nature to me.

AFC- 53. French Canadians deserve no preferential treatment because of the way they treat minority groups.

ALF- 54. I hate French.

MI+ 55. When I am studying French, I ignore distractions and stick to the job at hand.

INST 56. Studying French is important for me because it will increase my ability to influence others.

+1 slight agreement (support) -1 slight disagreement (opposition)
+2 moderate agreement (support) -2 moderate disagreement (opposition)
+3 strong agreement (support) -3 strong disagreement (opposition)

FUA- 57. I would feel calm and sure of myself if I had to order a meal in French.

FCA+ 58. It worries me that other students in my class seem to speak French better than I do.

FTE+ 59. My French instructor is a great source of inspiration to me.

FCE+ 60. I look forward to the time I spend in French class.

IFL+ 61. I would really like to learn many foreign languages.

D- 62. I sometimes daydream about dropping French.

FTE- 63. My French teacher is one of the least pleasant people I know.

IFL+ 64. If I planned to stay in another country, I would make a great effort to learn the language even though I could get along in English.

AFC+ 65. I would like to know more French Canadians.

INT 66. Studying French is important because it will allow me to gain good friends more easily among French Canadians.

FUA+ 67. I would feel uncomfortable speaking French under any circumstances.

ALF- 68. Learning French is a waste of time.

D- 69. I haven't any great wish to learn more than the basics of French.

MI+ 70. When I have a problem understanding something we are learning in my French class, I always ask the instructor for help.

FCE- 71. To be honest, I really have little interest in my French class.

ALF+ 72. I love learning French.

IFL- 73. I would rather see a foreign film dubbed in English than see the film in its original language with English sub-titles.

AFC+ 74. Most French Canadians are so friendly and easy to get along with that Canada is fortunate to have them.

INST 75. Studying French is important because it will make me appear more cultured.

FUA- 76. I would feel quite relaxed if I had to ask street directions in French.

FCA+ 77. It embarrasses me to volunteer answers in our French class.

+1 slight agreement (support) -1 slight disagreement (opposition)
+2 moderate agreement (support) -2 moderate disagreement (opposition)
+3 strong agreement (support) -3 strong disagreement (opposition)

MI- 78. I have a tendency to give up when our French instructor goes off on a tangent.

D- 79. As I grow older, I find I'm losing any desire I ever had in knowing French.

AFC- 80. French Canadian fervour is the real threat to our national unity.

ALF- 81. When I finish this course, I shall give up the study of French entirely because I am not interested in it.

IFL+ 82. I enjoy meeting and listening to people to who speak other languages.

FUA+ 83. I would get nervous if I had to speak French to someone in a store.

FCA- 84. I don't understand why other students feel nervous about using French in class.

FTE+ 85. I really like my French teacher.

FCE- 86. If I had my choice, I would switch French courses.

MI- 87. I don't pay too much attention to the feedback I receive in my French class.

D+ 88. I would like to learn as much French as possible.

AFC- 89. French Canadians should not try to maintain their cultural identity.

IFL- 90. Seeing that Canada is relatively far from countries speaking other languages, it is not important for Canadians to learn foreign languages.

FUA- 91. I would feel comfortable speaking French in an informal gathering where both English and French speaking persons were present.

FCA+ 92. I never feel quite sure of myself when I am speaking in our French class.

FTE- 93. I would prefer to have a different French instructor.

FCE+ 94. French is one of my favourite courses.

D+ 95. If it were up to me, I would spend all of my time learning French.

ALF+ 96. I plan to learn as much French as possible.

FTE- 97. My French teacher doesn't present materials in an interesting way.

FCE- 98. I have a hard time thinking of anything positive about my French class.

PART II

Instructions

Please answer each of the following items by circling the letter of the alternative which appears to be most applicable to you. We should like to remind you that no individual instructor will have access to the questionnaires or any other information which associates your responses to this questionnaire with your name. We would urge you to be as accurate as possible since the success of this investigation depends upon it.

1. After I get my French assignments back, I:
   1 a) ignore all corrections and comments.
MI 3 b) carefully go over the assignments, correcting my mistakes.
   2 c) look the assignment over, but don't bother correcting mistakes.

2. I watch French T.V.:
   2 a) seldom.
D 3 b) often.
   1 c) never.

3. If I could achieve my goals without taking French, I:
   2 a) don't know whether or not I would take it.
MI 3 b) would definitely take it.
   1 c) would drop it.

4. If I had the opportunity to see a French play, I would:
   3 a) definitely go.
D 2 b) go only if I had nothing else to do.
   1 c) not go.

5. When I have a problem understanding something we are learning in French class, I:
   1 a) just forget about it.
MI 3 b) immediately ask the instructor for help.
   2 c) only seek help just before the exam.

6. During French class, I would like:
   3 a) to have only French spoken.
D 2 b) to have a combination of French and English spoken.
   1 c) to have as much English as possible spoken.

7. When I hear a French song on the radio, I:
   1 a) change the station.
MI 2 b) listen to the music, but ignore the words.
   3 c) listen carefully and try to understand all the words.

8. If there were French-speaking families in my neighbourhood, I would:
   2 a) speak French with them sometimes.
D 3 b) speak French with them as much as possible.
   1 c) never speak French with them.

9. If my instructor wanted someone to do an extra French assignment, I would:
   1 a) definitely not volunteer.
MI 2 b) only do it if the instructor asked me directly.
   3 c) definitely volunteer.

10. I find studying French:
   3 a) very interesting.
D 2 b) no more interesting than most subjects.
   1 c) not interesting at all.

11. In French class, I:
3 a) volunteer answers as much as possible.
MI 1 b) never say anything.
2 c) try to answer only the easier questions.

12. If I had the opportunity to speak French outside of school situations, I would:
2 a) speak it occasionally, using English whenever possible.
D 1 b) never speak it.
3 c) speak French most of the time, using English only if really necessary.

13. I actively think about what I have learned in my French classes:
1 a) hardly ever.
MI 2 b) once in a while.
3 c) very frequently.

14. If I had the opportunity to join a relevant French association, I would:
2 a) probably join, but attend meetings only once in a while.
D 1 b) definitely not join.
3 c) be most interested in joining.

15. If French were not taught here, I would:
1 a) not bother learning French at all.
MI 3 b) try to obtain lessons in French somewhere else.
2 c) pick up French in everyday situations (i.e., read French books and newspapers, try to speak it whenever possible, etc.).

16. Compared to other courses I am taking or have taken, I like French
3 a) the most.
D 1 b) least of all.
2 c) the same as all the others.

17. When it comes to French homework, I
2 a) put some effort into it, but not as much as I could.
MI 1 b) just skim over it.
3 c) work very carefully, making sure I understand everything.

18. If I had the opportunity and knew enough French, I would read French magazines and newspapers:
3 a) as often as I could.
D 2 b) not very often.
1 c) never.

19. Considering how I study French, I can honestly say that I:
1 a) will pass on the basis of sheer luck or intelligence, because I do very little work.
MI 3 b) really try to learn French.
2 c) do just enough work to get along.

20. If a French movie came to our town, I would:
3 a) go see it even if it were not interesting.
D 1 b) not go to see it under any circumstances.
2 c) go see it only if it looked interesting.

21. I am studying French because:
Int a) I think it will help me to better understand French people and their way of life.
Inst b) A knowledge of two languages will make me a better-educated person.
Inst c) I think it will someday be useful in getting a good job.
Int d) It will allow me to meet and converse with more and varied people.

PART III

The purpose of this part of the questionnaire is to determine your ideas and impressions about various aspects of learning French, varying all the way from your French course to your feelings about learning French. We call these things "concepts". In answering this section, you will be asked to rate these concepts on a number of scales. On the following pages, there is a concept given at the top of the page, and below that a group of scales. You are to rate each concept on each of the scales in order. Following is how you are to use the scales.

If the word at either end of the scale very strongly describes your ideas and impressions about the concept at the top of the page, you would place your X as shown below:

friendly ___X___:_____:_____:_____:_____:_____:_____ unfriendly

OR

friendly _____:_____:_____:_____:_____:_____:___X___ unfriendly

If the word at either end of the scale describes somewhat your ideas and impressions about the concept (but not strongly so), you should place your X as follows:

dangerous _____:___X___:_____:_____:_____:_____:_____ safe

OR

dangerous _____:_____:_____:_____:_____:___X___:_____ safe

If the word at either end of the scale only slightly describes your ideas and impressions about the concept, you would place your X as follows:

fast _____:_____:___X___:_____:_____:_____:_____ slow

OR

fast _____:_____:_____:_____:___X___:_____:_____ slow

If the word at either end of the scale doesn't seem to be at all related to your ideas and impressions about the concept, you would place your X as follows:

useful _____:_____:_____:___X___:_____:_____:_____ useless

My French Course

meaningful	____:____:____:UTIL:____:____:____	meaningless
enjoyable	____:____:____:EVAL:____:____:____	unenjoyable
monotonous	____:____:____:INT :____:____:____	absorbing
effortless	____:____:____:DIFF:____:____:____	hard
awful	____:____:____:EVAL:____:____:____	nice
interesting	____:____:____:INT :____:____:____	boring
good	____:____:____:EVAL:____:____:____	bad
simple	____:____:____:DIFF:____:____:____	complicated
disagreeable	____:____:____:EVAL:____:____:____	agreeable
fascinating	____:____:____:INT :____:____:____	tedious
worthless	____:____:____:EVAL:____:____:____	valuable
necessary	____:____:____:UTIL:____:____:____	unnecessary
appealing	____:____:____:EVAL:____:____:____	unappealing
useless	____:____:____:UTIL:____:____:____	useful
elementary	____:____:____:DIFF:____:____:____	complex
pleasurable	____:____:____:EVAL:____:____:____	painful
educational	____:____:____:UTIL:____:____:____	noneducational
unrewarding	____:____:____:EVAL:____:____:____	rewarding
difficult	____:____:____:DIFF:____:____:____	easy
satisfying	____:____:____:EVAL:____:____:____	unsatisfying
unimportant	____:____:____:UTIL:____:____:____	important
unpleasant	____:____:____:EVAL:____:____:____	pleasant
exciting	____:____:____:INT :____:____:____	dull
clear	____:____:____:DIFF:____:____:____	confusing
colourful	____:____:____:INT :____:____:____	colourless

EVAL = Evaluation
DIFF = Difficulty
UTIL = Utility
INT = Interest

Learning French

good	____:____:____:EVAL:____:____:____	bad
beneficial	____:____:____:UTIL:____:____:____	harmful
unpleasant	____:____:____:EVAL:____:____:____	pleasant
nice	____:____:____:EVAL:____:____:____	awful
advantageous	____:____:____:UTIL:____:____:____	disadvantageous
disagreeable	____:____:____:EVAL:____:____:____	agreeable
exciting	____:____:____:EVAL:____:____:____	boring
unimportant	____:____:____:UTIL:____:____:____	important
dull	____:____:____:EVAL:____:____:____	interesting
useful	____:____:____:UTIL:____:____:____	useless
unlikeable	____:____:____:EVAL:____:____:____	likeable
satisfying	____:____:____:EVAL:____:____:____	unsatisfying
unprofitable	____:____:____:UTIL:____:____:____	profitable
unappealing	____:____:____:EVAL:____:____:____	appealing
valuable	____:____:____:EVAL:____:____:____	worthless
impractical	____:____:____:UTIL:____:____:____	practical

EVAL = Evaluation
UTIL = Utility

Foreign Languages

uninteresting	____:____:____:EVAL:____:____:____	interesting
awful	____:____:____:EVAL:____:____:____	nice
exciting	____:____:____:EVAL:____:____:____	boring
harmful	____:____:____:EVAL:____:____:____	beneficial
stimulating	____:____:____:EVAL:____:____:____	dull
pleasant	____:____:____:EVAL:____:____:____	unpleasant
vulgar	____:____:____:EVAL:____:____:____	refined
appealing	____:____:____:EVAL:____:____:____	unappealing
bad	____:____:____:EVAL:____:____:____	good
enjoyable	____:____:____:EVAL:____:____:____	unenjoyable

EVAL = Evaluation

Me

friendly	____:____:____:EVAL:____:____:____	unfriendly
religious	____:____:____:____:____:____:____	irreligious
considerate	____:____:____:EVAL:____:____:____	inconsiderate
cheerless	____:____:____:EVAL:____:____:____	cheerful
artistic	____:____:____:____:____:____:____	inartistic
quiet	____:____:____:____:____:____:____	talkative
undependable	____:____:____:EVAL:____:____:____	dependable
polite	____:____:____:EVAL:____:____:____	impolite
intolerant	____:____:____:EVAL:____:____:____	tolerant
excitable	____:____:____:____:____:____:____	calm
unpleasant	____:____:____:EVAL:____:____:____	pleasant
unjust	____:____:____:EVAL:____:____:____	just
aggressive	____:____:____:____:____:____:____	unaggressive
inhospitable	____:____:____:EVAL:____:____:____	hospitable
trustworthy	____:____:____:EVAL:____:____:____	untrustworthy
emotional	____:____:____:____:____:____:____	rational
insensitive	____:____:____:____:____:____:____	sensitive
proud	____:____:____:____:____:____:____	humble
traditional	____:____:____:____:____:____:____	modern
rash	____:____:____:____:____:____:____	cautious

EVAL = Evaluation

My French Instructor

inefficient	____:____:____:EVAL:____:____:____	efficient
insensitive	____:____:____:RAPP:____:____:____	sensitive
cheerful	____:____:____:EVAL:____:____:____	cheerless
competent	____:____:____:COMP:____:____:____	incompetent
insincere	____:____:____:EVAL:____:____:____	sincere
unapproachable	____:____:____:RAPP:____:____:____	approachable
pleasant	____:____:____:EVAL:____:____:____	unpleasant
trusting	____:____:____:RAPP:____:____:____	suspicious
incapable	____:____:____:COMP:____:____:____	capable
tedious	____:____:____:INSP:____:____:____	fascinating
friendly	____:____:____:EVAL:____:____:____	unfriendly
exciting	____:____:____:INSP:____:____:____	dull
organized	____:____:____:COMP:____:____:____	disorganized
unreliable	____:____:____:EVAL:____:____:____	reliable
unimaginative	____:____:____:INSP:____:____:____	imaginative
impatient	____:____:____:RAPP:____:____:____	patient
polite	____:____:____:EVAL:____:____:____	impolite
colourful	____:____:____:INSP:____:____:____	colourless
unintelligent	____:____:____:COMP:____:____:____	intelligent
good	____:____:____:EVAL:____:____:____	bad
industrious	____:____:____:COMP:____:____:____	unindustrious
boring	____:____:____:INSP:____:____:____	interesting
undependable	____:____:____:EVAL:____:____:____	dependable
disinterested	____:____:____:RAPP:____:____:____	interested
inconsiderate	____:____:____:EVAL:____:____:____	considerate

EVAL = Evaluation
RAPP = Rapport
COMP = Competance
INSP = Inspiration

Me in My French Class

flustered	____	: ____	: ____	:ANX	: ____	: ____	: ____	composed
comfortable	____	: ____	: ____	:ANX	: ____	: ____	: ____	uncomfortable
lazy	____	: ____	: ____	: MI	: ____	: ____	: ____	industrious
active	____	: ____	: ____	: MI	: ____	: ____	: ____	inactive
nervous	____	: ____	: ____	:ANX	: ____	: ____	: ____	confident
peaceful	____	: ____	: ____	:ANX	: ____	: ____	: ____	embarrassed
indifferent	____	: ____	: ____	: MI	: ____	: ____	: ____	eager
anxious	____	: ____	: ____	:ANX	: ____	: ____	: ____	calm
tranquil	____	: ____	: ____	:ANX	: ____	: ____	: ____	worried
hardworking	____	: ____	: ____	: MI	: ____	: ____	: ____	idle
unenergetic	____	: ____	: ____	: MI	: ____	: ____	: ____	energetic
tense	____	: ____	: ____	:ANX	: ____	: ____	: ____	relaxed
fearless	____	: ____	: ____	:ANX	: ____	: ____	: ____	fearful
interested	____	: ____	: ____	: MI	: ____	: ____	: ____	uninterested
unmotivated	____	: ____	: ____	: MI	: ____	: ____	: ____	motivated
concerned	____	: ____	: ____	:ANX	: ____	: ____	: ____	unconcerned
bored	____	: ____	: ____	: MI	: ____	: ____	: ____	stimulated
placid	____	: ____	: ____	:ANX	: ____	: ____	: ____	apprehensive
striving	____	: ____	: ____	: MI	: ____	: ____	: ____	apathetic
enthusiastic	____	: ____	: ____	: MI	: ____	: ____	: ____	unenthusiastic

ANX = Anxiety
MI = Motivational Intensity

French Canadians

rash	____:____:____:____:____:____:____	cautious
friendly	____:____:____:EVAL:____:____:____	unfriendly
calm	____:____:____:____:____:____:____	excitable
hospitable	____:____:____:EVAL:____:____:____	inhospitable
unjust	____:____:____:EVAL:____:____:____	just
artistic	____:____:____:____:____:____:____	inartistic
sensitive	____:____:____:____:____:____:____	insensitive
cheerful	____:____:____:EVAL:____:____:____	cheerless
undependable	____:____:____:EVAL:____:____:____	dependable
unpleasant	____:____:____:EVAL:____:____:____	pleasant
tolerant	____:____:____:EVAL:____:____:____	intolerant
unaggressive	____:____:____:____:____:____:____	aggressive
considerate	____:____:____:EVAL:____:____:____	inconsiderate
rational	____:____:____:EVAL:____:____:____	emotional
religious	____:____:____:____:____:____:____	irreligious
humble	____:____:____:____:____:____:____	proud
untrustworthy	____:____:____:EVAL:____:____:____	trustworthy
talkative	____:____:____:____:____:____:____	quiet
modern	____:____:____:____:____:____:____	traditional
impolite	____:____:____:EVAL:____:____:____	polite

EVAL = Evaluation

Me - Interacting in French

Imagine yourself in a situation where you are interacting with French-speaking people. Think of yourself both speaking to them in French and listening to what they have to say. On the following scales, rate how you would feel:

concerned	____:____:____:ANX :____:____:____	unconcerned
bored	____:____:____: EM :____:____:____	interested
unfriendly	____:____:____: EM :____:____:____	friendly
tense	____:____:____:ANX :____:____:____	relaxed
pleased	____:____:____: EM :____:____:____	annoyed
placid	____:____:____:ANX :____:____:____	apprehensive
awful	____:____:____: EM :____:____:____	nice
flustered	____:____:____:ANX :____:____:____	composed
happy	____:____:____: EM :____:____:____	unhappy
sociable	____:____:____: EM :____:____:____	unsociable
comfortable	____:____:____:ANX :____:____:____	uncomfortable
enthusiastic	____:____:____: EM :____:____:____	unenthusiastic
nervous	____:____:____:ANX :____:____:____	confident
peaceful	____:____:____:ANX :____:____:____	embarrassed
anxious	____:____:____:ANX :____:____:____	calm
serious	____:____:____: EM :____:____:____	humorous
tranquil	____:____:____:ANX :____:____:____	worried
quiet	____:____:____: EM :____:____:____	talkative
patient	____:____:____: EM :____:____:____	impatient
fearless	____:____:____:ANX :____:____:____	fearful

ANX = Anxiety
EM = Emotional State

PART IV

The purpose of this part of the questionnaire is to determine your direct feelings about a number of topics. In answering this section, you are asked to rate a series of statements as to their applicability to you. Each statement is followed by a seven-point scale, and you are asked to place an X in one of the spaces to indicate the extent to which that statement applies to you.

1. If I were to rate my feelings about learning French in order to interact with French Canadians, I would say that they are

   WEAK ___:___:___:___:___:___:___ STRONG INT

2. If I were to rate my attitude toward French Canadians, I would say that it is

   UNFAVOURABLE ___:___:___:___:___:___:___ FAVOURABLE AFC

3. If I were to rate my interest in foreign languages, I would say that it is

   VERY LOW ___:___:___:___:___:___:___ VERY HIGH IFL

4. If I were to rate my desire to learn French, I would characterize it as

   WEAK ___:___:___:___:___:___:___ STRONG DES

5. If I were to rate my attitude toward learning French, I would say that it is

   UNFAVOURABLE ___:___:___:___:___:___:___ FAVOURABLE ALF

6. If I were to rate my attitude toward my French instructor, I would say that it is

   UNFAVOURABLE ___:___:___:___:___:___:___ FAVOURABLE TEA

7. If I were to rate my feelings about learning French for practical purposes, such as to improve my occupational opportunities, I would say that they are

   WEAK ___:___:___:___:___:___:___ STRONG INST

8. If I were to rate my anxiety when speaking French, I would say that it is

   LOW ___:___:___:___:___:___:___ HIGH FUA

9. If I were to rate my attitude toward my French course, I would say that it is

   UNFAVOURABLE ___:___:___:___:___:___:___ FAVOURABLE CRS

10. If I were to rate my anxiety in my French class, I would rate myself as

    VERY CALM ___:___:___:___:___:___:___ VERY NERVOUS FCA

11. If I were to rate how hard I work at learning French, I would characterize it as

    VERY LITTLE ___:___:___:___:___:___:___ VERY MUCH MI_

We would now like you to return to the beginning of Part IV of the questionnaire (page 19). This time we would like you to rate how confident you are that your initial rating of that item is representative of your true feelings. To the right of each statement and to the right of the margin there is a line on which you are to place your rating of confidence. Make your confidence ratings based on the following scheme:

1 Very Uncertain
2 Uncertain
3 Confident
4 Very Confident

After you have made your confidence ratings, continue with Part V on the next page.

Part VI

The following items are from the Horwitz (1986) Foreign Language Classroom Anxiety Scale. Please read each item and indicate how it applies to you by circling the appropriate alternative below it.

1. I never feel quite sure of myself when I am speaking in my foreign language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

2. I don't worry about making mistakes in language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

3. I tremble when I know that I'm going to be called on in language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

4. It frightens me when I don't understand what the teacher is saying in the foreign language.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

5. It wouldn't bother me at all to take more foreign language classes.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

6. During language class, I find myself thinking about things that have nothing to do with the course.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

7. I keep thinking that the other students are better at languages than I am.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

8. I am usually at ease during tests in my language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagr

9. I start to panic when I have to speak without preparation in language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

10. I worry about the consequences of failing my foreign language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

11. I don't understand why some people get so upset over foreign language classes.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

12. In language class, I can get so nervous I forget things I know.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

13. It embarrasses me to volunteer answers in my language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

14. I would not be nervous speaking the foreign language with native speakers.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

15. I get upset when I don't understand what the teacher is correcting.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

16. Even if I am well prepared for class, I feel anxious about it.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

17. I often feel like not going to my language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

18. I feel confident when I speak in foreign language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

19. I am afraid that my language teacher is ready to correct every mistake I make.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

20. I can feel my heart pounding when I'm going to be called on in language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

21. The more I study for a language test, the more confused I get.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

22. I don't feel pressure to prepare very well for language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

23. I always feel that the other students speak the foreign language better than I do.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

24. I feel very self-conscious about speaking the foreign language in front of other students.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

25. Language class moves so quickly I worry about getting left behind.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

26. I feel more tense and nervous in my language class than in my other classes.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

27. I get nervous and confused when I am speaking in my language class.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

28. When I'm on my way to language class, I feel very sure and relaxed.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

29. I get nervous when I don't understand every word the language teacher says.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

31. I am afraid that the other students will laugh at me when I speak the foreign language.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

32. I would probably feel comfortable around native speakers of the foreign language.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

33. I get nervous when the language teacher asks questions which I haven't prepared in advance.

Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree

Appendix B

QUESTIONNAIRE FOR STUDY 2

QUESTIONNAIRE CONTENTS

The following questionnaire contains items drawn from several sources. The items have been grouped by response format and randomly mixed together. The scale to which each item belongs is indicated in the margin according to the following legend:

Part I

AFC - Attitudes toward French Canadians (Gardner, 1985)
IFL - Interest in Foreign Languages (Gardner, 1985)
FUA - French Use Anxiety (Gardner, 1985)
ALF - Attitudes toward Learning French (Gardner, 1985)
FCA - French Classroom Anxiety (Gardner, 1985)
Integ - Integrative Orientation (Gardner, 1985)
Instrm - Instrumental Orientation (Gardner, 1985)

Part II

MI - Motivational Intensity (Gardner, 1985)
Des - Desire to Learn French (Gardner, 1985)
OI - Orientation Index (Gardner, 1985)

Part III

Semantic Differential ratings of the Course (Gardner, 1985)
Semantic Differential ratings of the Teacher (Gardner, 1985)

Part IV

Facil - Facilitating French Test Anxiety (MacIntyre & Gardner, in press)
Debil - Debilitating French Test Anxiety (MacIntyre & Gardner, in press)
Test - Test Anxiety (Sarason, 1986)

Part V

C.A. - Communication Apprehension (McCroskey, 1982)
FNE - Fear of Negative Evaluation (Watson & Friend, 1960)
[1]Input - Input Stage Anxiety (MacIntyre - new)
[1]Pro - Processing Stage Anxiety (MacIntyre - new)
[1]Out - Output stage anxiety (MacIntyre - new)
FLCAS - Foreign Language Classroom Anxiety (Horwitz et al. 1986)

Part VI

CanDo - Can Do ratings of French Proficiency (Clark, 1985)

Self Evaluation Questionnaire

Trait Anxiety (Spielberger, 1982)

[1]These scales are being tested for the first time in this study, the rest have been used in previous investigations as listed.

PART I

Instructions

Following are a number of statements with which some people agree and others disagree. There are no right or wrong answers since many people have different opinions.

Please mark each one of the statements in the left margin according to the amount of your agreement or disagreement by using the following scale:

+1	slight agreement (support)	-1	slight disagreement (opposition)
+2	moderate agreement (support)	-2	moderate disagreement (opposition)
+3	strong agreement (support)	-3	strong disagreement (opposition)

The following sample item will serve to illustrate the basic procedure.

_____ a. The friendship that exists between Canada and the United States is stronger than it has ever been.

In answering this question, you should have written in the number corresponding to one of the alternatives above. Some people would have written in +3 (strong agreement), others would have written in -3 (strong disagreement), while others would have used any of the alternatives in between. Which one you choose would indicate your own feelings based on everything you know and have heard. Note, there is no right or wrong answer.

FCA- 1. I do not get anxious when I am asked for information in my French class.

ALF- 2. I find the study of French very boring.

AFC- 3. By promoting French to the exclusion of English, French Canadians in Quebec have shown that they deserve less, not more, consideration from the rest of Canada.

FUA- 4. It doesn't bother me at all to speak French.

ALF+ 5. I often wish I could read newspapers and magazines in another language.

INTEG 6. Studying French is important because it will enable me to better understand French Canadian life and culture.

FCA+ 7. I am sometimes afraid the other students will laugh at me when I speak French.

INSTR 8. Studying French is important because it will give me an edge in competing with others.

IFL+ 9. Because of Canada's position on bilingualism, I think that all Canadian schools should teach French.

FCA- 10. I feel confident when asked to participate in my French class.

AFC+ 11. French Canadians are a very sociable, warm-hearted and creative people.

+1 slight agreement (support) -1 slight disagreement (opposition)
+2 moderate agreement (support) -2 moderate disagreement (opposition)
+3 strong agreement (support) -3 strong disagreement (opposition)

IFL- 12. I really have no interest in foreign languages.

INTEG 13. Studying French can be important for me because it will allow me to meet and converse with more and varied people.

FUA+ 14. I feel anxious if someone asks me something in French.

IFL+ 15. I wish I could speak another language perfectly.

FCA+ 16. I get nervous and confused when I am speaking in my French class.

AFC- 17. The more I learn about French Canadians, the less I like them.

ALF+ 18. French is really great.

INSTR 19. Studying French can be important to me because I think it will someday be useful in getting a good job.

FUA- 20. When called upon to use my French, I feel very much at ease.

AFC+ 21. If Canada should lose the French culture of Quebec, it would indeed be a great loss.

ALF- 22. I would rather spend on courses other than French.

IFL- 23. Most foreign language d crude and harsh.

INTEG 24. Studying French is important because it will allow me to participate more freely in the activities of French Canadians.

FUA+ 25. It would bother me if I had to speak French on the telephone.

FCA- 26. I don't usually get anxious when I have to respond to a question in my French class.

FUA+ 27. Speaking French bothers me.

ALF+ 28. I really enjoy learning French.

AFC+ 29. The more I get to know French Canadians, the more I want to be fluent in their language.

FCA- 30. Students who claim they get nervous in French class are just making excuses.

IFL- 31. Studying a foreign language is not a pleasant experience.

AFC- 32. French Canadians deserve no preferential treatment because of the way they treat minority groups.

ALF- 33. I hate French.

INSTR 34. Studying French is important for me because it will increase my ability to influence others.

+1	slight agreement (support)	-1	slight disagreement (opposition)
+2	moderate agreement (support)	-2	moderate disagreement (opposition)
+3	strong agreement (support)	-3	strong disagreement (opposition)

FUA- 35. I would feel calm and sure of myself if I had to order a meal in French.

FCA+ 36. It worries me that other students in my class seem to speak French better than I do.

IFL+ 37. I would really like to learn many foreign languages.

AFC+ 38. I would like to know more French Canadians.

INTEG 39. Studying French is important because it will allow me to gain good friends more easily among French Canadians.

IFL+ 40. If I planned to stay in another country, I would make a great effort to learn the language even though I could get along in English.

FUA+ 41. I would feel uncomfortable speaking French under any circumstances.

ALF- 42. Learning French is a waste of time.

ALF+ 43. I love learning French.

IFL- 44. I would rather see a foreign film dubbed in English than see the film in its original language with English sub-titles.

AFC+ 45. Most French Canadians are so friendly and easy to get along with that Canada is fortunate to have them.

INSTR 46. Studying French is important because it will make me appear more cultured.

FUA- 47. I would feel quite relaxed if I had to ask street directions in French.

FCA+ 48. It embarrasses me to volunteer answers in our French class.

AFC- 49. French Canadian fervour is the real threat to our national unity.

ALF- 50. When I finish this course, I shall give up the study of French entirely because I am not interested in it.

IFL+ 51. I enjoy meeting and listening to people to who speak other languages.

FUA+ 52. I would get nervous if I had to speak French to someone in a store.

FCA- 53. I don't understand why other students feel nervous about using French in class.

AFC- 54. French Canadians should not try to maintain their cultural identity.

+1	slight agreement (support)	-1	slight disagreement (opposition)
+2	moderate agreement (support)	-2	moderate disagreement (opposition)
+3	strong agreement (support)	-3	strong disagreement (opposition)

IFL- 55. Seeing that Canada is relatively far from countries speaking other languages, it is not important for Canadians to learn foreign languages.

FUA- 56. I would feel comfortable speaking French in an informal gathering where both English and French speaking persons were present.

FCA+ 57. I never feel quite sure of myself when I am speaking in our French class.

ALF+ 58. I plan to learn as much French as possible.

PART II

Instructions

Please answer each of the following items by circling the letter of the alternative which appears to be most applicable to you. We should like to remind you that no individual instructor will have access to the questionnaires or any other information which associates your responses to this questionnaire with your name. We would urge you to be as accurate as possible since the success of this investigation depends upon it.

MI 1. After I get my French assignments back, I:
1 a) ignore all corrections and comments.
3 b) carefully go over the assignments, correcting my mistakes.
2 c) look the assignment over, but don't bother correcting mistakes.

DES 2. I watch French T.V.:
2 a) seldom.
3 b) often.
1 c) never.

MI 3. If I could achieve my goals without taking French, I:
2 a) don't know whether or not I would take it.
3 b) would definitely take it.
1 c) would drop it.

DES 4. If I had the opportunity to see a French play, I would:
3 a) definitely go.
2 b) go only if I had nothing else to do.
1 c) not go.

MI 5. When I have a problem understanding something we are learning in French class, I:
1 a) just forget about it.
3 b) immediately ask the instructor for help.
2 c) only seek help just before the exam.

MI 6. During French class, I would like:
3 a) to have only French spoken.
2 b) to have a combination of French and English spoken.
1 c) to have as much English as possible spoken.

DES 7. When I hear a French song on the radio, I:
1 a) change the station.
2 b) listen to the music, but ignore the words.
3 c) listen carefully and try to understand all the words.

MI 8. If there were French-speaking families in my neighbourhood, I would:
2 a) speak French with them sometimes.
3 b) speak French with them as much as possible.
1 c) never speak French with them.

MI 9. If my instructor wanted someone to do an extra French assignment, I would:
1 a) definitely not volunteer.
2 b) only do it if the instructor asked me directly.
3 c) definitely volunteer.

DES	10.	I find studying French:
3		a) very interesting.
2		b) no more interesting than most subjects.
1		c) not interesting at all.
MI	11.	In French class, I:
3		a) volunteer answers as much as possible.
1		b) never say anything.
2		c) try to answer only the easier questions.
DES	12.	If I had the opportunity to speak French outside of school situations, I would:
2		a) speak it occasionally, using English whenever possible.
1		b) never speak it.
3		c) speak French most of the time, using English only if really necessary.
MI	13.	I actively think about what I have learned in my French classes:
1		a) hardly ever.
2		b) once in a while.
3		c) very frequently.
DES	14.	If I had the opportunity to join a relevant French association, I would:
2		a) probably join, but attend meetings only once in a while.
1		b) definitely not join.
3		c) be most interested in joining.
DES	15.	If French were not taught here, I would:
1		a) not bother learning French at all.
2		b) try to obtain lessons in French somewhere else.
3		c) pick up French in everyday situations (i.e., read French books and newspapers, try to speak it whenever possible, etc.).
DES	16.	Compared to other courses I am taking or have taken, I like French:
3		a) the most.
1		b) least of all.
2		c) the same as all the others.
MI	17.	When it comes to French homework, I
2		a) put some effort into it, but not as much as I could.
1		b) just skim over it.
3		c) work very carefully, making sure I understand everything.
DES	18.	If I had the opportunity and knew enough French, I would read French magazines and newspapers:
3		a) as often as I could.
2		b) not very often.
1		c) never.
MI	19.	Considering how I study French, I can honestly say that I:
1		a) will pass on the basis of sheer luck or intelligence, because I do very little work.
3		b) really try to learn French.
2		c) do just enough work to get along.

DES	20.	If a French movie came to our town, I would:
3		a) go see it even if it were not interesting.
1		b) not go to see it under any circumstances.
2		c) go see it only if it looked interesting.
O.I.	21.	I am studying French because:
Int		a) I think it will help me to better understand French people and their way of life.
Inst		b) A knowledge of two languages will make me a better-educated person.
Inst		c) I think it will someday be useful in getting a good job.
Int		d) It will allow me to meet and converse with more and varied people.

PART III

The purpose of this part of the questionnaire is to determine your ideas and impressions about various aspects of learning French, varying all the way from your French course to your feelings about learning French. We call these things "concepts". In answering this section, you will be asked to rate these concepts on a number of scales. On the following pages, there is a concept given at the top of the page, and below that a group of scales. You are to rate each concept on each of the scales in order. Following is how you are to use the scales.

If the word at either end of the scale very strongly describes your ideas and impressions about the concept at the top of the page, you would place your X as shown below:

friendly __X__:____:____:____:____:____:__ unfriendly

OR

friendly ____:____:____:____:____:____:__X__ unfriendly

If the word at either end of the scale describes somewhat your ideas and impressions about the concept (but not strongly so), you should place your X as follows:

dangerous ____:__X__:____:____:____:____:____ safe

OR

dangerous ____:____:____:____:____:__X__:____ safe

If the word at either end of the scale only slightly describes your ideas and impressions about the concept, you would place your X as follows:

fast ____:____:__X__:____:____:____:____ slow

OR

fast ____:____:____:____:__X__:____:____ slow

If the word at either end of the scale doesn't seem to be at all related to your ideas and impressions about the concept, you would place your X as follows:

useful ____:____:____:__X__:____:____:____ useless

My French Course

meaningful	____:____:____:UTIL:____:____:____	meaningless
enjoyable	____:____:____:EVAL:____:____:____	unenjoyable
monotonous	____:____:____:INT :____:____:____	absorbing
effortless	____:____:____:DIFF:____:____:____	hard
awful	____:____:____:EVAL:____:____:____	nice
interesting	____:____:____:INT :____:____:____	boring
good	____:____:____:EVAL:____:____:____	bad
simple	____:____:____:DIFF:____:____:____	complicated
disagreeable	____:____:____:EVAL:____:____:____	agreeable
fascinating	____:____:____:INT :____:____:____	tedious
worthless	____:____:____:EVAL:____:____:____	valuable
necessary	____:____:____:UTIL:____:____:____	unnecessary
appealing	____:____:____:EVAL:____:____:____	unappealing
useless	____:____:____:UTIL:____:____:____	useful
elementary	____:____:____:DIFF:____:____:____	complex
pleasurable	____:____:____:EVAL:____:____:____	painful
educational	____:____:____:UTIL:____:____:____	noneducational
unrewarding	____:____:____:EVAL:____:____:____	rewarding
difficult	____:____:____:DIFF:____:____:____	easy
satisfying	____:____:____:EVAL:____:____:____	unsatisfying
unimportant	____:____:____:UTIL:____:____:____	important
unpleasant	____:____:____:EVAL:____:____:____	pleasant
exciting	____:____:____:INT :____:____:____	dull
clear	____:____:____:DIFF:____:____:____	confusing
colourful	____:____:____:INT :____:____:____	colourless

EVAL = Evaluation
DIFF = Difficulty
UTIL = Utility
INT = Interest

My French Instructor

inefficient	____:____:____:EVAL:____:____:____	efficient
insensitive	____:____:____:RAPP:____:____:____	sensitive
cheerful	____:____:____:EVAL:____:____:____	cheerless
competent	____:____:____:COMP:____:____:____	incompetent
insincere	____:____:____:EVAL:____:____:____	sincere
unapproachable	____:____:____:RAPP:____:____:____	approachable
pleasant	____:____:____:EVAL:____:____:____	unpleasant
trusting	____:____:____:RAPP:____:____:____	suspicious
incapable	____:____:____:COMP:____:____:____	capable
tedious	____:____:____:INSP:____:____:____	fascinating
friendly	____:____:____:EVAL:____:____:____	unfriendly
exciting	____:____:____:INSP:____:____:____	dull
organized	____:____:____:COMP:____:____:____	disorganized
unreliable	____:____:____:EVAL:____:____:____	reliable
unimaginative	____:____:____:INSP:____:____:____	imaginative
impatient	____:____:____:RAPP:____:____:____	patient
polite	____:____:____:EVAL:____:____:____	impolite
colourful	____:____:____:INSP:____:____:____	colourless
unintelligent	____:____:____:COMP:____:____:____	intelligent
good	____:____:____:EVAL:____:____:____	bad
industrious	____:____:____:COMP:____:____:____	unindustrious
boring	____:____:____:INSP:____:____:____	interesting
undependable	____:____:____:EVAL:____:____:____	dependable
disinterested	____:____:____:RAPP:____:____:____	interested
inconsiderate	____:____:____:EVAL:____:____:____	considerate

EVAL = Evaluation
RAPP = Rapport
COMP = Competance
INSP = Inspiration

My Language Lab

meaningful	____	____	____	UTIL	____	____	____	meaningless
monotonous	____	____	____	INT	____	____	____	absorbing
interesting	____	____	____	INT	____	____	____	boring
disagreeable	____	____	____	EVAL	____	____	____	agreeable
fascinating	____	____	____	INT	____	____	____	tedious
necessary	____	____	____	UTIL	____	____	____	unnecessary
useless	____	____	____	UTIL	____	____	____	useful
pleasurable	____	____	____	EVAL	____	____	____	painful
educational	____	____	____	UTIL	____	____	____	noneducational
unrewarding	____	____	____	EVAL	____	____	____	rewarding
satisfying	____	____	____	EVAL	____	____	____	unsatisfying
unimportant	____	____	____	UTIL	____	____	____	important
unpleasant	____	____	____	EVAL	____	____	____	pleasant
exciting	____	____	____	INT	____	____	____	dull
colourful	____	____	____	INT	____	____	____	colourless

EVAL = Evaluation
DIFF = Difficulty
UTIL = Utility
INT = Interest

Me in my Language Lab

flustered	____	____	____	ANX	____	____	____	composed
comfortable	____	____	____	ANX	____	____	____	uncomfortable
lazy	____	____	____	MI	____	____	____	industrious
active	____	____	____	MI	____	____	____	inactive
nervous	____	____	____	ANX	____	____	____	confident
calm	____	____	____	ANX	____	____	____	anxious
tranquil	____	____	____	ANX	____	____	____	worried
hardworking	____	____	____	MI	____	____	____	idle
unenergetic	____	____	____	MI	____	____	____	energetic
tense	____	____	____	ANX	____	____	____	relaxed
unmotivated	____	____	____	MI	____	____	____	motivated
concerned	____	____	____	MI	____	____	____	indifferent
bored	____	____	____	MI	____	____	____	stimulated
placid	____	____	____	ANX	____	____	____	apprehensive
striving	____	____	____	MI	____	____	____	apathetic
interested	____	____	____	MI	____	____	____	disinterested

ANX = Anxiety
MI = Motivational Intensity

PART IV

The following items refer to your reactions to taking tests in general and French tests in particular. Please indicate whether you would consider each statement as "true" or "false." For items on which it is difficult to decide, indicate whether the item is more often true (circle T) or more often false (circle F).

Facil 1. While I may or may not be nervous before taking a French Exam, once I start, I seem to forget to be nervous.

Debil 2. I find myself reading French exam questions without understanding them, and I must go back over them so that they will make sense.

Test 3. While taking an important examination, I perspire a great deal.

Facil 4. Nervousness while taking a French test helps me do better.

Debil 5. I am so tired from worrying about a French exam, that I find I almost don't care how well I do by the time I start the test.

Test 6. I feel very panicky when I have to take a surprise exam.

Facil 7. When I start a French test nothing is able to distract me.

Debil 8. I find that my mind goes blank at the beginning of a French exam, and it takes me a few minutes before I can function.

Test 9. During tests, I find myself thinking of the consequences of failing.

Facil 10. In French courses in which the total grade is based mainly on one exam, I seem to do better than other people.

Debil 11. The more important a French examination, the less well I seem to do.

Test 12. If I were to take an intelligence test I would worry a great deal before taking it.

Facil 13. I look forward to the exams in a French course.

Debil 14. When I don't do well on a difficult item at the beginning of a French exam, it tends to upset me so that I block on even easy questions later on.

Test 15. During course examinations, I find myself thinking of things unrelated to the actual course material.

Facil 16. In French courses, although "cramming" under pre-exam tension is not effective for most people, I find that if the need arises, I can learn the French material immediately before an exam, even under considerable pressure, and successfully retain it to use on the exam.

Debil 17. When I am poorly prepared for a French exam or test, I get upset, and do less well than even my restricted knowledge should allow.

Test 18. When I take a test, my emotional feelings do not interfere with my performance.

Facil 19. I enjoy taking a difficult French exam more than an easy one.

Debil 20. In a French course where I have been doing poorly, my fear of a bad grade cuts down my proficiency.

Test 21. Getting a good grade on one test does not seem to increase my confidence on the second.

Facil 22. The more important the French exam or test, the better I seem to do.

Debil 23. Nervousness while taking a French exam or test hinders me from doing well.

Test 24. I sometimes feel my heart beating very fast during important tests.

Part V

The following statements refer to situations involving every-day behaviour and your reactions in French-speaking situations. To the following items, please indicate your opinion using the numbers from 1 to 6. In this case, 1 would indicate strong agreement, 6 strong disagreement. For more moderate agreement respond with a 2 or 5 for moderate disagreement. Mild agreement would be indicated by 3 and mild disagreement by 4.

agree 1--2--3-----4--5--6 disagree

FLCAS- 1. I don't worry about making mistakes in language class.

Input- 2. I am not bothered by someone speaking quickly in French.

FNE+ 3. I worry that others will think I am not worthwhile.

Input- 4. It does not bother me if my French notes are disorganized before I study them.

Pro- 5. Learning new French vocabulary does not worry me, I can acquire it in no time.

Out- 6. I never feel tense when I have to speak in French.

C.A.+ 7. I dislike to use my voice and body expressively.

FLCAS+ 8. I get nervous and confused when I am speaking in my language class.

FNE- 9. Other people's opinions of me do not bother me.

FLCAS- 10. I would probably feel comfortable around native speakers of the foreign language.

FNE- 11. The opinions that important people have of me cause me little concern.

C.A.+ 12. I always avoid speaking in public if possible.

Input- 13. I enjoy just listening to someone speaking French.

Pro+ 14. I am anxious with French because, no matter how hard I try, I have trouble understanding it.

FLCAS- 15. When I'm on my way to language class, I feel very sure and relaxed.

C.A.- 16. I look forward to an opportunity to speak in public.

Out- 17. I feel confident that I can easily use the French vocabulary that I know in a conversation.

FLCAS+ 18. I always feel that the other students speak the foreign language better than I do.

Pro+ 19. The only time that I feel comfortable during French tests is when I have had a lot of time to study.

C.A.- 20. I would enjoy presenting a speech on a local television show.

FLCAS- 21. I am usually at ease during tests in my language class.

FNE+ 22. I am often afraid that I may look ridiculous or make a fool of myself.

FLCAS+ 23. I start to panic when I have to speak without preparation in language class.

Input+ 24. I get flustered unless French is spoken very slowly and deliberately.

Pro+ 25. I feel anxious if French class seems disorganized.

FLCAS+ 26. It embarrasses me to volunteer answers in my language class.

FNE+ 27. I often worry that people who are important to me won't think very much of me.

C.A.+ 28. I am afraid to express myself in a group.

Out+ 29. I may know the proper French expression but when I am nervous it just won't come out.

C.A.- 30. I like to get involved in group discussion.

Input+ 31. I get upset when I read in French because I must read things again and again.

FNE- 32. I worry very little about what others may think of me.

FLCAS+ 33. I can feel my heart pounding when I'm going to be called on in language class.

FNE+ 34. I often worry that I will say or do the wrong things.

FLCAS- 35. I feel confident when I speak in foreign language class.

FNE- 36. I am often indifferent to the opinions others have of me.

Pro- 37. I am self-confident in my ability to appreciate the meaning of French dialogue.

C.A.+ 38. Although I talk fluently with friends, I am at a loss for words on the platform.

Out+ 39. I get upset when I know how to communicate something in French but I just cannot verbalize it.

C.A.- 40. I look forward to expressing myself at meetings.

Input+ 41. I get upset when French is spoken too quickly.

C.A.- 42. I feel that I am more fluent when talking tc people than most other people are.

Out- 43. I never get nervous when writing something for my French class.

C.A.+ 44. I'm afraid to speak up in conversations.

Pro- 45. I do not worry when I hear new or unfamiliar French words, I am confident that I can understand them.

Out+ 46. When I become anxious during a French test, I cannot remember anything I studied.

Part VI

Please read each of the following items below and rate how difficult or easy they would be for you to do, in French, right now.

Very Easy 1 -- 2 -- 3 -- 4 -- 5 -- 6 -- 7 Very Difficult

CanDo 1. Make out a shopping list.

CanDo 2. Understand cooking directions such as those on soup cans.

CanDo 3. In face to face conversation, understand native French speakers who are talking to you as quickly and colloquially as they would to another French speaker.

CanDo 4. Fill out a job application form requiring information about your interests and qualifications.

CanDo 5. On the telephone, understand a native French speaker who is speaking slowly and carefully (i.e. deliberately adapting his or her speech to suit you).

CanDo 6. Write a letter to a friend.

CanDo 7. Buy cloths in a department store.

CanDo 8. Describe the Ontario educational system in some detail.

CanDo 9. In face to face conversation, understand a native French speaker who is speaking slowly and carefully (i.e. deliberately adapting his or her speech to suit you).

CanDo 10. Understand newspaper headlines.

CanDo 11. Read personal letters or notes written to you in which the writer has deliberately used simple words and constructions.

CanDo 12. Understand very simple statements or questions in French ("Hello", "How are you", "What is your name", "Where do you live", etc.).

CanDo 13. Leave a note for somebody explaining where you will be or when you will come home.

CanDo 14. Describe the role played by parliament in the Canadian government system.

CanDo 15. Understand French movies without subtitles.

CanDo 16. Order a simple meal in a restaurant.

CanDo 17. Understand two native speakers when they are talking rapidly with one another.

CanDo 18. Give a brief description of a picture (eg. photograph or picture in an art gallery) while looking at it.

CanDo 19. Understand play-by-play descriptions of sports events (eg. soccer) on radio.

CanDo 20. Understand news broadcasts on the radio.

CanDo 21. Read popular novels without using a dictionary.

CanDo 22. Talk about your favorite hobby at some length, using appropriate vocabulary.

CanDo 23. Count to 10 in French.

CanDo 24. Ask directions in the street.

CanDo 25. Write an advertisement to sell a bicycle.

CanDo 26. Read personal letters or notes written as they would be to a native speaker.

Feedback Sheet - Study 2

Thank you for participating in the study of attitudes, motivation, and anxiety in language learning. Certainly factors such as intelligence, aptitude and experience will influence language learning and performance, however, this study was designed to focus directly on anxiety, attitudes, and motivation.

There is a large body of research on the role of these and other variables in the process of language learning. Generally, those with less anxiety tend to perform better in the second language. Also, students who are more highly motivated tend to learn more than those who lack motivation. Positive attitudes have also been associated with success in learning a second language. A recent study, similar to the one that you have just completed, has shown a consistent relationship between these variables and objective measures of language proficiency. For example, it was found that as the anxiety level of the students increased, scores on the French proficiency measures tended to decrease. Also, more positive attitudes were associated with better performance.

In order to verify these results, we asked you to complete similar French performance tests that included writing on theme, filling-in-the-blanks, answering a multiple choice test, and naming elements of a category. We also requested your permission to obtain your final grade in French this year. In order to investigate the more specific processes involved in language learning, we also asked you to complete some more unusual tasks such as flashing words on the computer screen, learning pairs of nouns, holding strings of numbers and words in your short term memory, and describing yourself in both English and French. According to the theory on which this study is based, these tasks can be considered as elements in each of three stages of language learning: input, processing and output.

These three stages of learning clearly overlap, however, it is still possible to distinguish between them and to develop tasks that focus primarily on one stage. Thus, during the input stage, linguistic stimuli are recognized and attention is directed too them; at the processing stage, incoming linguistic stimuli are given meaning and outgoing messages are constructed; and in the output stage, French material is produced in the form of either spoken or written messages.

Any attempt to break down a process that is as broad and rapid as language learning and speaking is difficult. However, we hope to isolate the elements of the processes and examine the role of anxiety, attitudes, and motivation at each stage individually. In this manner we can gain a better understanding of how such "personality" variables influence the language learning process.

Listed below are some readings that deal with the various factors that influence second language learning. Each of them are relevant, in different ways, to the present study provide the background for it. We encourage you to examine these works if you are interested in the topic further. If you wish to obtain a copy of the results of the present study, or if you have any questions or concerns about it, please contact either Dr. R. C. Gardner (661-3670) or Peter MacIntyre (679-2111, x4542), Department of Psychology, Social Science Centre, U.W.O.

Suggested Readings

Gardner, R. C. (1985). Social psychology and second language learning: The role of attitudes and motivation. London: Edward Arnold.

Horwitz, E. K. & D. J. Young. (in press). Language Anxiety: From Theory and Research to Classroom Practice. (in press).

MacIntyre, P. D. & Gardner, R. C. (in press). Methods and results in the study of foreign language anxiety: A review of the literature. Language Learning.

Appendix C

Reduction Analysis of Horwitz' (FLCAS) scale

In previous research (Horwitz, 1986), the 33 item FLCAS scale (Horwitz et al., 1986) has shown a high degree of internal consistency (α = .93) and test-retest reliability over eight weeks (r = .83, p < .001). The following analysis was conducted to create a shorter form of this scale for use in Study 2. First, a principal components analysis was conducted to reveal the factor structure underlying the items, followed by a reliability analysis that attempted to identify items that should be retained in the shorter form of the scale.

FLCAS Principal Components

Horwitz et al. (1986) suggest that the FLCAS is based on three inter-related constructs: communication apprehension, social evaluation anxiety, and test anxiety. For this reason, a three factor solution was obtained and, since the factors are expected to be correlated, rotated using the OBLIMIN procedure (see Table C-1).

Using loadings above + or - .3, the structure matrix revealed two larger factors and one smaller one. The first factor, with loadings from 29 of the 33 items, will be labelled Social Evaluation Apprehension since most of the items refer to communicative situations, comparisons to the abilities of others, or to the reactions of other students and the teacher. The second factor, with loadings from 25 items, seems to reflect an emphasis on Academic Evaluation Anxiety with most items referring to apprehension over making mistakes, apprehension in testing situations, and anxiety created when the respondent does not understand the teacher or the corrections made by the teacher. These two factors show a moderately strong correlation (r = .43) with many items found on both factors (20/29 items load on both Factor I and Factor II).

The third factor, with loadings from eight items, seems to indicate a Disdain for Language Class with items indicative of distraction, avoidance of class, and a lack of need to prepare for class. Only two items are unique to this factor and both seem to be problematic based on the reliability analysis described below. This

factor was relatively independent of the other two factors (r_{13} = -.14, r_{23} = .01) and does not seem to correspond to any part of the Horwitz et al. (1986) formulation.

In order to determine the construct validity of each of the factors, factor scores were generated using the regression approach and correlated with the French Class and French Use Anxiety variables. The Social Evaluation Anxiety factor was significantly and highly correlated with all of the measures of French Class Anxiety and French Use Anxiety. On the other hand, neither the Academic Evaluation Anxiety factor nor the Disdain for Language Class factors correlated significantly with any of the measures of French Class or French Use anxiety.

A considerable amount of overlap was observed in these factors, so much so that the distinctions outlined by Horwitz et al. may not be required. Specifically, a separate dimension of communication apprehension was not obtained but was included with the Social Evaluation factor. Theoretically, this is a meaningful pattern since communication apprehension can be seen as a by-product of the social nature of communication (McCroskey, 1977; Schlenker & Leary, 1985). Similar results were reported by MacIntyre and Gardner (1991b) who found that scales of communication apprehension, evaluation anxiety, and trait anxiety define the same factor. The connection, as suggested by the work of Endler and others, may be in the ego-threat present in each of these situations (Endler, 1980; Endler et al., 1988).

With such a high degree of redundancy, it may be advisable to reduce the number of items on this scale. Gardner's (1985) French Class and French Use Anxiety scales have a maximum of 10 items, though acceptable reliability coefficients are obtained with as few as six (Clement, Gardner & Smythe, 1980; Gardner & Lysynchuk, 1990) or eight items (MacIntyre & Gardner, 1989). This suggests that it may be possible to retain the predictive validity of the FLCAS with substantially fewer items.

Item Analysis

The full 33 item FLCAS was subjected to a reliability analysis. Chronbach's coefficient alpha (α) for this sample was .94, indicating a highly reliable scale. Horwitz (1986) reports a similar coefficient (α = .93) in a sample of 300 university students.

In an attempt to identify any items that could be removed from the FLCAS scale, the corrected item-total correlations were examined. Only three of these correlations were below an arbitrary cutoff value of .30, those for item #6, #15, and #17 (see Appendix A). The factor analysis revealed that item #15 is weakly associated with two factors, negatively in one case, positively in the other, and therefore may be an acceptable item. On the other hand, items #6 and #17 are associated with only the most poorly defined factor. These two items tend not to be correlated with other variables in the matrix (except between themselves, r = .48) and would be candidates for removal from the scale.

While a highly reliable scale is certainly desirable, the items need not be overly redundant. In order to reduce such redundancy, a "short form" of the FLCAS scale was created. The eight items with corrected item-total correlations above .70 were selected and subjected to a reliability analysis. Six of the eight items in the shorter version load on both Factor I and Factor II in the analysis to be described below (items 2, 9, 13, 16, 20, and 27). The two remaining items appear only on Factor I (items 18, and 23). As with the longer version, items are not balanced in keying and 6 of 8 are indicative of anxiety. The Chronbach reliability of the short form of the FLCAS is similar to that of the full scale (α = .93).

In order to assess the construct validity of the FLCAS, both the long and short versions were correlated with the various measures of French Class Anxiety and French Use Anxiety (see Table C-2). The French Class Anxiety variables correlate strongly with both the long form and the short form of the FLCAS scale. Also, similar correlations are observed between the French Use anxiety scale and both versions of the

FLCAS scale. Finally, the long and short forms of this scale correlate in a similar pattern with all of the French production measures. Both the long and short forms of the FLCAS show similar, significant negative correlations with the five objective French proficiency variables and four subjective French proficiency ratings measured in Study 1 (see Table C-3). Therefore, there is strong support for the possibility of using the long and short forms of this scale interchangeably.

Table C-1

FLCAS Oblique Solution Structure Matrix

	FACTOR 1	FACTOR 2	FACTOR 3
Item # 18	.86	.34	-.19
Item # 09	.85	.46	-.11
Item # 27	.83	.58	-.06
Item # 23	.79	.31	-.12
Item # 20	.78	.43	-.16
Item # 24	.78	.31	-.08
Item # 13	.77	.45	.05
Item # 07	.76	.21	-.04
Item # 31	.75	.38	-.15
Item # 02	.74	.48	-.01
Item # 33	.72	.39	.04
Item # 12	.71	.44	-.02
Item # 16	.69	.61	-.13
Item # 26	.69	.53	-.11
Item # 01	.69	.17	-.08
Item # 32	.65	.14	-.27
Item # 28	.56	.39	-.24
Item # 19	.54	.31	.11
Item # 14	.40	.28	-.34
Item # 21	.31	.72	-.04
Item # 08	.49	.71	-.27
Item # 03	.60	.67	-.07
Item # 30	.17	.67	.16
Item # 10	.43	.67	-.38
Item # 25	.43	.65	-.01
Item # 04	.50	.54	.17
Item # 15	.16	.44	.35
Item # 11	.35	.35	-.34
Item # 05	.24	.24	-.07
Item # 06	-.08	-.10	.64
Item # 17	.14	.20	.59
Item # 22	.43	.25	-.54
Item # 29	.29	.47	.50

Table C-2

Correlations among the Anxiety Scales

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) FLCAS-8								
(2) FLCAS-33	.98	-						
(3) FCA-L	.86	.81	-					
(4) FCA-S	.85	.85	.83	-				
(5) FCA-G	.85	.83	.84	.89	-			
(6) FUA-L	.68	.68	.78	.61	.67	-		
(7) FUA-S	.72	.73	.76	.67	.73	.79	-	
(8) FUA-G	.70	.68	.77	.66	.70	.64	.72	-

Note: All p's < .01

FLCAS-8 Foreign Language Classroom Anxiety Scale, 8 items (Short Form)
FLCAS-33 Foreign Language Classroom Anxiety Scale, 33 items
FCA-L French Class Anxiety, Likert
FCA-S French Class Anxiety, Semantic Differential
FCA-G French Class Anxiety, Guilford
FUA-L French Use Anxiety, Likert
FUA-S French Use Anxiety, Semantic Differential
FUA-G French Use Anxiety, Guilford

Table C-3

Correltaions of FLCAS (Long and Short Form) with Objective and Self-Rated French Proficiency

	FLCAS-33	FLCAS-8
Objective Measures		
Grades	-.38	-.33
French Achievement	-.48	-.44
Cloze	-.46	-.41
Categories	-.33	-.26
Theme	-.61	-.55
Self-Ratings		
Speaking	-.61	-.57
Understanding	-.52	-.52
Writing	-.54	-.47
Reading	-.53	-.53

Note: All p's < .01 (one tailed)

Appendix D

QUESTIONNAIRE & RESPONSE SHEETS FOR STUDY 3

Anxiety Study 1992 Subject I.D. Number _____

The following statements refer to your reactions in French-speaking situations, both in and out of French class. Please indicate your opinion using the following numbers:

1 = strong agreement
2 = moderate agreement
3 = mild agreement
4 = Neither agree nor disagree
5 = mild disagreement
6 = moderate disagreement
7 = strong disagreement

strongly agree 1--2--3--4--5--6--7 strongly disagree
neutral

For example,

_____ I love French class.

In evaluating this statement, you would write a number between 1 and 7 according to how you feel about French class. People who hate French class would write 7, those who love French class would write 1, those with mixed feelings would write something in-between. There are no right or wrong answers, we are interested in your opinion.

FCA- 1. I do not get anxious when I am asked for information in my French class.

FUA- 2. It doesn't bother me at all to speak French.

FCA+ 3. I am sometimes afraid the other students will laugh at me when I speak French.

FCA- 4. I feel confident when asked to participate in my French class.

FUA+ 5. I feel anxious if someone asks me something in French.

FCA+ 6. I get nervous and confused when I am speaking in my French class.

FUA- 7. When called upon to use my French, I feel very much at ease.

FUA+ 8. It would bother me if I had to speak French on the telephone.

FCA- 9. I don't usually get anxious when I have to respond to a question in my French class.

FUA+ 10. Speaking French bothers me.

FCA- 11. Students who claim they get nervous in French class are just making excuses.

FUA- 12. I would feel calm and sure of myself if I had to order a meal in French.

FCA+ 13. It worries me that other students in my class seem to speak French better than I do.

FUA+ 14. I would feel uncomfortable speaking French under any circumstances.

FUA- 15. I would feel quite relaxed if I had to ask street directions in French.

strongly agree 1--2--3--4--5--6--7 strongly disagree
neutral

FCA+ 16. It embarrasses me to volunteer answers in our French class.

FUA+ 17. I would get nervous if I had to speak French to someone in a store.

FCA- 18. I don't understand why other students feel nervous about using French in class.

FUA- 19. I would feel comfortable speaking French in an informal gathering where both English and French speaking persons were present.

FCA+ 20. I never feel quite sure of myself when I am speaking in our French class.

INPUT- 21. I am not bothered by someone speaking quickly in French.

INPUT- 22. It does not bother me if my French notes are disorganized before I study them.

PRO- 23. Learning new French vocabulary does not worry me, I can acquire it in no time.

OUTPUT- 24. I never feel tense when I have to speak in French.

INPUT+ 25. Unless the French instructor repeats things several times, I become quite nervous.

INPUT+ 26. I feel tense in French class because it moves too quickly.

PRO+ 27. I get so nervous that I cannot learn even simple vocabulary.

PRO+ 28. I feel panicky while studying for French tests.

OUTPUT+ 29. I panic during French tests and I loose marks because of it.

OUTPUT+ 30. If I were not so uptight, I would speak French better than I do.

INPUT- 31. I enjoy just listening to someone speaking French.

PRO+ 32. I am anxious with French because, no matter how hard I try, I have trouble understanding it.

OUTPUT- 33. I feel confident that I can easily use my French vocabulary in a conversation.

PRO+ 34. The only time that I feel comfortable during French tests is when I have had a lot of time to study.

INPUT+ 35. I get flustered unless French is spoken very slowly and deliberately.

PRO+ 36. I feel anxious if French class seems disorganized.

OUTPUT+ 37. I may know the proper French expression but when I am nervous it just won't come out.

INPUT+ 38. I get upset when I read in French because I must read things again and again.

strongly agree 1--2--3--4--5--6--7 strongly disagree
neutral

PRO- 39. I am self-confident in my ability to appreciate the meaning of French dialogue.

OUTPUT+ 40. I get upset when I know how to communicate something in French but I just cannot verbalize it.

INPUT+ 41. I get upset when French is spoken too quickly.

OUTPUT- 42. I never get nervous when writing something for my French class.

PRO- 43. I do not worry when I hear new or unfamiliar French words, I am confident that I can understand them.

OUTPUT+ 44. When I am anxious during a French test, I cannot remember anything I studied.

Recognition of the French Nouns

For today's study, you have been asked to learn some of the French words listed below while others were presented earlier but you were not asked to learn them. Please check off ( ) the ones that you remember from the learning portion of the study only, i.e. the ones for which you have seen the English translation.

_____ le linge
_____ le lievre
_____ le merle
_____ le cygne
_____ la rive
_____ la serre
_____ la tuile
_____ la puce
_____ la loutre
_____ le phare
_____ le seigle
_____ la meule
_____ le crotale
_____ la toile
_____ la fronde
_____ la grange
_____ le feutre
_____ la cible
_____ le givre

_____ la grive
_____ la gaufre
_____ la lame
_____ la rotule
_____ la cigogne
_____ la perdrix
_____ le peigne
_____ le cintre
_____ le navire
_____ le coude
_____ le singe
_____ le saule
_____ le manege
_____ le bagne
_____ la pieuvre
_____ le trefle
_____ la cuve
_____ le liege
_____ la moufle

Memory for Digits

Please write the digits in the same order as you hear them from the tape. Do not write anything until you hear "begin."

French Set:

a) ____ ____ ____ ____ ____ ____
b) ____ ____ ____ ____ ____ ____
c) ____ ____ ____ ____ ____ ____ ____
d) ____ ____ ____ ____ ____ ____ ____
e) ____ ____ ____ ____ ____ ____ ____ ____
f) ____ ____ ____ ____ ____ ____ ____ ____
g) ____ ____ ____ ____ ____ ____ ____ ____ ____
h) ____ ____ ____ ____ ____ ____ ____ ____ ____

English Set:

a) ____ ____ ____ ____ ____ ____
b) ____ ____ ____ ____ ____ ____
c) ____ ____ ____ ____ ____ ____ ____
d) ____ ____ ____ ____ ____ ____ ____
e) ____ ____ ____ ____ ____ ____ ____ ____
f) ____ ____ ____ ____ ____ ____ ____ ____
g) ____ ____ ____ ____ ____ ____ ____ ____ ____
h) ____ ____ ____ ____ ____ ____ ____ ____ ____

French Set:

a) ____ ____ ____ ____ ____ ____
b) ____ ____ ____ ____ ____ ____
c) ____ ____ ____ ____ ____ ____ ____
d) ____ ____ ____ ____ ____ ____ ____
e) ____ ____ ____ ____ ____ ____ ____ ____
f) ____ ____ ____ ____ ____ ____ ____ ____
g) ____ ____ ____ ____ ____ ____ ____ ____ ____
h) ____ ____ ____ ____ ____ ____ ____ ____ ____

Naming Elements of a Category

Write as many appropriate items as you can. You will have one minute for each category.

English Responses

"suitcase"

"houses"

"m"

French Responses

"refrigerator"

"people"

"t"

Feedback Sheet - Study 3

Thank you for participating in this study of anxiety in language learning. Factors such as intelligence, aptitude, motivation and experience will influence language learning and performance (Gardner, 1985), however, this study examines the role of anxiety in learning of vocabulary items.

There is a large body of research on anxiety in the process of language learning (Horwitz & Young, 1991). Generally, those with less anxiety tend to perform better on a wide variety of second language tasks (MacIntyre & Gardner, 1991). Anxiety appears to disrupt the student's focus and impairs performance on tasks that require concentration, such as learning vocabulary items.

According to the theory on which this study is based, tasks such as vocabulary acquisition can be broken up into three stages of language learning: input, processing and output. During the input stage, spoken or written words are recognized and given attention. You were working at the input stage during the time when only French words appeared on the computer screen. Learning occurs at the processing stage when the new words are given meaning. When the French-English pair was presented together you were working at the processing stage. Finally, in the output stage, French material is produced in the form of either spoken or written messages. You were required to type translations of the items as well as recall them to answer questions, this is the output stage. These three stages of learning clearly overlap, however, it is useful theoretically to distinguish among them.

In this study we attempted to isolate the elements of the three stages and examine the role of anxiety at each one individually. You were assigned, at random, to one of four groups, depending on the point in the study where the video camera was introduced: prior to the tasks of the (1) Input stage, (2) Processing stage, (3) Output stage, or (4) not at all. We expect that anxiety aroused at one stage will impair performance at all of the following stages. For comparison, the group that were not exposed to the video camera are expected to perform at their "normal" level. This relationship may depend on each student's pre-existing level of anxiety and that is why you completed the questionnaire items.

We encourage you to examine the works cited below if you are interested in the topic further. If you have any questions or concerns about it, please contact either Dr. R. C. Gardner (661-3670) or Peter MacIntyre (679-2111, x4642), Department of Psychology, Social Science Centre, U.W.O.

Gardner, R. C. (1985). Social psychology and second language learning: The role of attitudes and motivation. London: Edward Arnold.

Horwitz, E. K. & D. J. Young. (1991). Language Anxiety: From Theory and Research to Classroom Practice. Englewood Cliffs N.J.: Prentice Hall.

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