State of the art article

A student’s contributions to second-language learning. Part II: Affective variables

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This is the second part of a two-part article dealing with individual difference correlates of second-language learning. In this part, attention is directed to a consideration of the role of affective variables in second-language learning. By affective variables, we mean those emotionally relevant characteristics of the individual that influence how she he will respond to any situation. In the language learning situation, many such factors have been identified, but this article will focus on two broad classifications of affective factors, namely, Language attitudes and motivation, and Language anxiety and self-confidence.

Attitudes and motivation

Considerable research has been conducted on the role of attitudes and motivation in second- or foreign-language learning. This research began with speculations made by Lambert (1955) that an interest in learning another language often developed because of emotional involvement with the other language community or because of a direct interest in the language itself. In his studies of bilingual development, Lambert (1955) described two American university students who had developed particularly high levels of French/English bilingual skill. One had developed an intense identification with France, while the other had devoted much of her career to teaching French. Lambert speculated that their excessively high competence in French (their second language) was quite likely motivated by their somewhat different involvements with the language. We can see here the seeds of the distinction between integrative and instrumental orientations that was an integral part of some of the earlier research in this area.

The first investigation of the relationship of attitudes and motivation to achievement in a second language was published by Gardner and Lambert (1959), even though such relations had been hypothesized earlier. Arsenian (1945), for example, proposed that attitudes could play a role in second-language acquisition, and in an inaugural article in Language Learning, Marekward (1948) argued that there were five basic motives for learning a second language. These were described as ‘provision of a cultural background, the influence of foreign speech islands, the necessity for political and cultural unification, purposes of colonization and commerce, and the necessity of reading scientific and technical works’ (pp. 10–11). Note that the integrative and instrumental orientations are well represented in these basic motives.

In their initial study, Gardner and Lambert (1959) demonstrated that two independent factors, Language aptitude and Social motivation, were related to achievement in French among Canadian English-speaking high-school students. Subsequent research also showed relationships between both language aptitude on the one hand and attitudes and motivation on the other with achievement in the second language, though often more than two factors were obtained. This would be expected as the number and complexity of the variables grow and as the socio-cultural make-up of the communities and level of training and competence in the second language varies. The bulk of these studies were conducted in Montreal, Canada as well as in cities in Maine, Louisiana, and Connecticut, and the Philippines (see Gardner & Lambert, 1972, for a review of much of the earlier research).

Gardner and Smythe and their colleagues were concerned with formalising the composition and measurement of attitudes and motivation as they relate to second-language acquisition. They engaged in a programme of research to develop measures with high reliability and applicability to different age levels, levels of second-language training, and social contexts. Gardner and Smythe (1981) present summary data on the initial development of the Attitude/Motivation Test Battery while Gardner, Smythe, Clement and Glikman (1976) present summary data of the relationships of the various
measures with achievement in French drawn from various grade levels in seven different cities across Canada. Glikson (1981) investigated similar variables with students at the university level.

The Attitude/Motivation Test Battery (AMTB) was developed to measure a number of attributes associated with second-language learning. These can be grouped into five categories, four of which reflect concepts that are often used in this research. They are as follows.

(1) Motivation. Three different measures are needed to assess the various components of motivation. As proposed by Gardner (1985), the motivated individual is one who wants to achieve a particular goal, devotes considerable effort to achieve this goal, and experiences satisfaction in the activities associated with achieving this goal. That is, motivation is defined by three components: desire to achieve a goal, effort extended in this direction, and satisfaction with the task. One would expect that these three attributes would be correlated with one another, but it is possible that they might not be in some circumstances. Consider, for example, a classroom situation with a stern and severe teacher. It is conceivable that even individuals who are not truly motivated to learn the material may be shown to display considerable effort in class. If motivation were defined only in terms of effort, such individuals may be considered to be motivated, even though they do not have any desire to learn, and even find the experience distasteful. Other examples could also be given to show how one of the other elements of motivation may be elevated due to situational as opposed to motivational considerations. Given these considerations, motivation is assessed in the AMTB by three measures: (a) Desire to learn the language, (b) Motivational intensity, and (c) Attitudes toward learning the language.

(2) Integrativeness. Indices of integrativeness are comprised of attributes that reflect a positive outlook toward the other language group or subgroups in general. Since the learning of a second language involves acquiring skills associated with another cultural group, it is proposed that the motivation to learn the language could involve attitudes toward that community or more general attitudes toward other groups. In earlier research (see, for example, Gardner & Lambert, 1959, 1972), attention was also directed toward a number of measures including ethnocentrism and authoritarianism, but in the AMTB, three measures are used: (a) Attitudes toward the target language group, (b) Interest in foreign languages, and (c) Integrative orientation.

(3) Attitudes toward the learning situation. This concept refers to affective reactions toward the language-learning situation. As such, it could involve attitudes toward the instructor, the class, the textbooks, the language laboratory, etc. In the AMTB, attention is directed toward only two targets, largely because they are more generalizable across different studies. These are (i) Evaluation of the language teacher, and (ii) Evaluation of the language course.

(4) Language anxiety. This refers to student anxiety reactions to situations in which they might make use of the target language. Depending on the language-learning context, it could be possible to identify many possible situations, however, in the AMTB, two general measures are used: (a) French class anxiety, and (b) French use anxiety. The former scale refers to anxiety aroused specifically in the language class, while the latter refers to feelings of anxiety that individuals experience in any context where they are called upon to speak the target language.

(5) Other attributes. In many studies, some attributes are included in the AMTB that do not fit into any of the above categories. In decreasing order of use, these are (a) Instrumental orientation, (b) Parental encouragement, and (c) Orientation index.

In some studies, scores on the various scales are aggregated to produce scores on these general concepts: Motivation, Integrativeness, Attitudes toward the learning situation, and Language anxiety. In other studies, higher order aggregates are obtained. One such measure is the Integrative motivation score which is the sum of Motivation, Integrativeness, and Attitudes toward the learning situation. Another aggregate score that is used in some studies is the AMI score which is the aggregate of the Integrative motivation score plus instrumental orientation minus language anxiety. Lilonde and Gardner (1985) compared the relative predictive capacity of the three basic aggregates: Motivation, Integrativeness, and Attitudes toward the learning situation and found that Motivation correlated more highly with French grades, the behavioral intention to study French the next year, and objective measures of French achievement than did either the measures of Integrativeness or Attitudes toward the learning situation.

Other research has used the AMTB to attempt to understand the causal relationships among attitudes, motivation, and language achievement, and has sometimes included language anxiety and language aptitude. Some researchers (Burstall, Jameson, Cohen, & Hargreaves, 1974; Backman, 1976; Strong, 1981) have argued that achievement causes attitudes and motivation, while the sociocultural model (Gardner, 1985) explicitly proposes reciprocal causation. That is, it argues that motivation influences language achievement, and that language achievement as well as experiences in formal and informal language contexts influence attitudes and motivation (which are viewed as some of the many possible non-linguistic outcomes). Some studies have been concerned with testing causal models of these relationships using linear
structural relations modelling (LISREL) (Jöreskog & Sörbom, 1984). Many of these studies are discussed by Gardner (1985, chapter 8). Although the models change somewhat from study to study because of changes in the socio-cultural context, variables investigated, and the like, all of them indicate that a prime mediator in the language-learning process is motivation.

Still other research has made use of laboratory techniques to investigate the causal nature of attitudes, motivation and language achievement. Such research has the advantage that it controls extraneous factors that otherwise might cloud causal interpretations. It has the disadvantage, however, that it is much more artificial than even a classroom language-learning situation (that may be artificial in itself) and is concerned only with the acquisition of limited vocabulary elements. Nonetheless, such research has demonstrated that the rate of learning French/English vocabulary pairs is faster for those with high as opposed to low levels of AM (Gardner, Lalonde & Moorcroft, 1985) as well as integrative motivation (Gardner & Maclntyre, 1991). Gardner and Maclntyre also showed that individuals who were studying the vocabulary items because of instrumental motivation (aroused by a monetary incentive) learned faster than those without this motivation. Thus, in a controlled laboratory setting at least, both integrative and instrumental motivation were shown to influence second-language acquisition.

Many studies have used versions of the AM/IB in contexts outside those involving English Canadian students learning French as a second language. Generally speaking, all of these studies found evidence that motivation or some aspect of language attitudes correlated significantly with achievement in the second language. However, examination of the studies reveals many different forms of this relationship. There may be many reasons for this. The social contexts change, the measures are slightly different, the nature of the analyses vary, etc. Nonetheless, in many of them, there is evidence that affective variables are associated with achievement in the second language. In a series of studies, Clément and his colleagues investigated French Canadian students learning English as a second language (Clément, Gardner & Smythe, 1977, 1980; Clément, Major, Gardner & Smythe, 1977). In all of these studies, the highest relationships with achievement in the second language involved the indices of self-confidence (discussed below in the section on Anxiety), but self-confidence had clear relationships with the motivational indices.

Many studies have been conducted outside Canada. Laine (1977) investigated Finnish students learning English and found that indices of self-confidence and motivation were associated with English achievement. In Belize, Gordon (1980) found that language aptitude was the best single indicator of English achievement among school students. An index of attitudes toward the learning situation was the next best correlate. Muchnick and Wolfe (1982) investigated American students studying Spanish as a second language, and found that attitudes toward the Spanish course and Spanish class anxiety correlated significantly with grades in Spanish. Sison (1991) made use of causal modelling with a group of American students studying Spanish as a second language. She tested a model that had language attitudes 'causing' both motivation and language anxiety, motivation and language anxiety 'causing' language achievement, and motivation 'causing' (negatively) language anxiety. All of the paths, with the exception of that between language attitudes and language anxiety, were significant, and the fit of the model was acceptable.

In a most interesting study of the role of attitudes and motivation in second-language study, Kraemer (1990) investigated Israeli Jewish students studying either Arabic or French as a foreign language. She also made use of causal modelling to link language attitudes, motivation, and indices of proficiency in the other language. She also included other variables, such as social/political attitudes, political optimism, national security orientation, etc., that were necessary to reflect the socio-cultural setting there. Similar causal models were obtained for both students of Arabic and French. Motivation was found to be a central mediator in the prediction of language achievement, but was not expected to be in this context, integrative attitudes were not significant contributors to motivation. This study is particularly informative because it shows how it is necessary to consider carefully the factors that can contribute to the motivation to learn another language in different socio-cultural contexts.

The influence of motivational variables on second-language achievement has also been demonstrated in a military context. Lett and O'Mara (1990) investigated the predictive power of a number of variables such as general intellectual ability, language aptitude, demographic variables such as sex, etc., attitudes, motivation, learning strategies, personality variables, etc., on the learning of Korean, Russian, German, and Spanish by American military personnel in intensive language-learning programmes. As might be expected, aptitude tended to be among the most important predictors of proficiency (especially for Korean and Russian). Attitudes and motivation assessed during the programme contributed significantly to two of the three predictions computed for each language (the criteria were Listening, Reading, and Speaking proficiency at the end of the programme). Other variables contributed also, but the fact remains that even in a military context, attitudes and motivation were clearly related to proficiency in other languages.
Although most attention has been directed to the relation of attitudes and motivation to indices of second-language achievement, some research has focused attention on other criteria. One such criterion is persistence in language study. Bartley (1969) investigated the relation of language aptitude and foreign language attitudes to the tendency of grade 8 students in Spanish, French, German or Latin to enrol in their language course in the subsequent term. She found that those who dropped out of language study had significantly lower aptitude scores and less positive attitudes than students who continued with their studies. In a follow-up study, Bartley (1970) assessed student attitudes at the beginning of the school year and again at the end. She found that those who dropped out of language study had significantly less favourable attitudes on both occasions than students who did not drop out and also showed a significant decrease in their attitudes from the beginning to the end of the year. In a similar study, Ramage (1990) investigated high school students of French and Spanish and found that continuing students were more motivated and had more favourable attitudes toward the language class than students who were not continuing with their language study. Clement, Smythe and Gardner (1978) compared high school students who continued French study with those who dropped out the following year, and found that the drop-outs had significantly lower levels of motivation, and generally less positive attitudes than those who continued language study. They also tended to have lower levels of language aptitude and lower levels of French achievement. By and large, the index of motivation (comparable to the aggregate measure of motivation described above) was the single best predictor of who would continue as opposed to drop out.

Another variable that is influenced by attitudes and motivation is that of behaviour in the language classroom. Glikman (1976) investigated this relation in two studies. In the first, he contrasted individuals characterised as integratively motivated with those less integratively motivated (as defined by a median split on an aggregate score based on measures of Integrativeness and Motivation as described above). He found, over a series of class sessions, that those classified as integratively motivated volunteered more frequently (particularly among males), gave more correct answers, and received more positive reinforcement from the teacher than students not so motivated. Comparable results were obtained in a second study (also see Glikman, Gardner & Smythe, 1982), Naiman, Frohlich, Stern and Todesco (1978) obtained similar findings through they used a somewhat different tactic. They observed students who had been selected by their teachers as being either among the most or the least proficient in class and correlated scores on a series of attitude and motivation measures with their participation on 22 student-centred and 17 teacher-centred classroom behaviours. Many of the correlations were not significant, but those that were provided results comparable to those obtained by Glikman (1976). In yet another variant on this approach, Roeger, Bull and Fletcher (1981) compared students identified by their teachers as highly attentive and enthusiastic with students not so described. The former group had significantly more favourable attitudes toward learning foreign languages than the latter group. Making the assumption that the teacher's characterisation reflected behaviour in the classroom, such results again indicate an association between attitudes and classroom participation.

This review indicates that attitudes and motivation play a role in second-language acquisition. These attributes are related to measures of proficiency in the second language, rates of learning vocabulary, persistence in language study, and behaviour in the language classroom. The relationships are complex, but taken as a unit, they suggest that the operative variable in the language-learning process is motivation. Motivation itself, however, is also a complex of factors - proposed here to encompass desire to achieve a goal, effort expended in this direction, and reinforcement associated with the act of learning.

Crookes and Schmidt (1991) provide a similar characterisation of motivation as it relates to second-language learning based on their consideration of theories of motivation proposed in various fields of psychology. The important point is that motivation itself is dynamic. The old characterisation of motivation in terms of integrative vs instrumental orientations is too static and restricted. Many studies (see, for example, Dornyei, 1990; Lukman, 1972; Gardner & MacIntyre, 1991) have shown that achievement in a second language is facilitated by instrumental orientations (or motivation) as well as integrative orientations and attitudes (see, for example, Gardner, 1985; Gardner & MacIntyre, in press), or other motivational attributes (Clement, 1986; Kraemer, 1990). Whereas motivation appears to play a primary role in second-language learning, various other attributes, including integrativeness and attitudes toward the learning situation would seem to play a role in supporting levels of motivation.

Language anxiety

A topic of rising importance in the study of language learning is the role of language anxiety. This is a relatively new development largely because the role of anxiety in language learning was not recognised in early research. Studies conducted in the 1970s were difficult to interpret because of
measures with centred and 17 arts. Many of the but those that o those obtained r variant on this (1981) compared whereas as highly students not so significantly more ing foreign lan the assumption ns reflected results again indicate s and classroom studies and motivations acquisition, measures of pro rates of learning uage study and -room. The re n as a unit, they in the language-Motivation itself, actors – proposed eve a goal, effort nd reinforcement provide a similar :relates to second- consideration of in various fields oint is that motiv characterisation of v. vs. instrumental cted. Many studies i. Lukmani, 1972; have shown that ge is facilitated by tivation) as well as tudes (see, for r & MacIntyre, in tributes (Clément, motivation appears in-language learning, learning integrativeness language situation would ling levels of moti

contradictory results (Chastain, 1975; Kleinmann, 1977; Scovel, 1978), probably resulting from using general measures of anxiety. Recent studies, however, have focused on a type of anxiety related specifically to language situations, termed language anxiety. A recent volume devoted to the subject (Horwitz & Young, 1991) demonstrates its emerging significance.

Language anxiety can be defined as the apprehension experienced when a situation requires the use of a second language with which the individual is not fully proficient. It is, therefore, seen as a stable personality trait referring to the propensity for an individual to react in a nervous manner when speaking, listening, reading, or writing in the second language. As with other forms of anxiety, it is characterised by derogatory self-related cognitions (e.g., 'I can't do this'), feelings of apprehension, and physiological responses such as increased heart rate (Endler & Okada, 1975; Eysenck, 1979; Schwarzer, 1986).

Horwitz, Horwitz, and Cope (1986) describe anxiety in the language classroom as a complex experience related, in part, to communication apprehension, social evaluation, and test anxiety. Communication apprehension is a response to the real or anticipated act of speaking, in the same manner as one may become anxious when speaking the native language (Daly, 1991; McCroskey, 1978). Social evaluation apprehension emerges from the social nature of language use, because second-language communication involves self-presentation in a language with which only limited competency has been attained. The test anxiety component refers to the academic nature of many language-learning environments and would be relevant to those situations involving formal instruction. Horwitz et al. (1986) further state that language anxiety should be seen as more than the sum of these parts. They view language anxiety '...as 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).

Evidence in favour of Horwitz et al. theory has been accumulating rapidly. Horwitz (1986) found that other measures of communication apprehension, social evaluation anxiety and test anxiety each correlated significantly with anxiety in the language classroom. Further, language anxiety was significantly, negatively correlated with expected and obtained grades in the language course. Along similar lines, MacIntyre and Gardner (1989) used factor analysis to identify two anxiety dimensions, General anxiety and Communicative anxiety. Two of the four scales defining Communicative anxiety referred specifically to second-language situations. Further analyses revealed that Communicative anxiety negatively influenced second-language vo-

The negative effects of language anxiety on second-language acquisition have been well estabilished. Several studies have shown a negative correlation with grades in language courses (Gardner, Smythe, Clément & Gilksman, 1976; Horwitz, 1986; Trylong, 1987; Gardner & MacIntyre, in press). Course grades are one of the most salient measures of language performance; however, correlations with such a global measure tell us little about the manner in which anxiety operates.

There have been several studies that have used more specific indices of performance. Generally, the effects of language anxiety have been shown to be pervasive over several types of tasks (MacIntyre & Gardner, 1992). Young (1986) reports correlations between scores on an oral proficiency interview and language anxiety. Tucker, Hamayan and Genesee (1976) found that being more adventurous, less anxious, and more willing to use the foreign language was associated with achievement in a group of late immersion students. Gardner, Lalonde, Moorcroft and Evers (1987) found that French class anxiety was significantly correlated with each of four proficiency measures (word production, theme test, listening comprehension, and self-ratings of proficiency) in grade 12 and grade 13 students. Trylong (1987) found significant correlations of anxiety with achievement on written tests, oral quizzes, and final grades in a first-year university French course.

Experimental investigations have tried to induce anxiety in a controlled environment in order to study its effects. A study by Steinberg and Horwitz (1986) examined two groups. In one, anxiety was aroused by impersonal treatment and videotaping students while they described ambiguous pictures. A second group was treated in a friendly manner and was not videotaped. The group in which anxiety was induced was found to be significantly less interpretable than the more relaxed group when describing the scenes. A later study by Gardner, Day and MacIntyre (1992) found that simply introducing a video camera is not sufficient to produce anxiety. They suggest that the social
interaction in Steinberg & Horwitz's study was a key element in producing differences in the two groups. Finally, MacIntyre and Gardner (1991) asked beginning adult language students to write a brief essay on either an anxiety-provoking experience or a confidence-building one. The groups who wrote about anxiety tended to perceive themselves as less proficient than the group who described a confidence building experience, and the most anxiety-provoking experience reported was almost always related to speaking.

One theory of the development of language anxiety has been offered by MacIntyre and Gardner (1989). They propose that it develops as the result of repeated, negative experiences with the second language. Language anxiety is seen as a learned emotional response. At the earliest stages, the language learner may experience a form of state anxiety, a transient apprehensive experience. After repeated occurrences of state anxiety, the student will come to reliably associate anxiety with performance in the second language. Once it has developed, language anxiety can have a pervasive impact on the performance of language students, even affecting future learning. The negative effects of language anxiety would be expected to diminish over time as proficiency increases and more positive experiences accumulate.

This model has two different components. At the earliest stages of language learning, language anxiety is not very meaningful because negative experiences have not produced the negative affect or expectations of failure that typify anxiety. After several negative experiences, however, the relation between anxiety and performance should be observed. A study by Chapelle and Roberts (1986) found that the correlation between English class anxiety and TOEFL scores at the beginning of a semester was not significant; however, by the end of the semester, the correlation had increased to a significant level.

The suggestion that anxiety levels are highest early on in language learning and then decline as proficiency increases also has been supported by research. Gardner, Smythe and Brunet (1977) compared beginning, intermediate, and advanced students of French on subtests of the MATB before and after an intensive summer-school language course. The highest levels of anxiety were shown by the beginners and the least by the advanced students. All three groups showed less French class anxiety at the end of the course than they did at the beginning. Desrochers and Gardner (1981) found that anxiety levels declined significantly among English-speaking grade-eight students after a four-day excursioon to a French-speaking community. Among adult students, Gardner, Smythe and Clement (1979) found that proficiency increased while anxiety decreased after an intensive French summer-school programme. The results of these studies indicate that as experience and proficiency increase, anxiety declines in a fairly consistent manner.

The theoretical models and related research discussed thus far have considered the negative, sometimes debilitating, effects of language anxiety. The suggestion has been made, however, that some anxiety may be helpful in second-language learning (Scovel, 1978). Klenmann (1977) reports positive correlations between this 'facilitating anxiety' and use of difficult linguistic structures. On balance, however, this hypothesis has not been well supported. In almost all studies that employ a measure specifically related to language anxiety (rather than a more general anxiety measure) negative correlations with achievement have been obtained. Moreover, the similarities between facilitating anxiety and motivation are striking, both in how they are measured and their conceptual definitions. In fact, it has been suggested that the facilitating effects of anxiety could be attributable to motivation (Gardner et al., 1992).

The results of these studies of language anxiety suggest that anxious students will have lower levels of verbal production, will have difficulty in basic learning and production will be less likely to volunteer answers in class and will be reluctant to express personally relevant information in a second-language conversation. Further, it would appear that language anxiety arises from early negative experiences, particularly with speaking. While language anxiety may be high initially, it would be expected to decline as the student gains proficiency, provided that the student continues to study or use the second language.

In some ways, the antithesis of the anxious student is the self-confident one (MacIntyre & Gardner, 1991). In multicultural settings, however, self-confidence may mean more than a lack of anxiety. Clement (1980, 1986) considers self-confidence to be a superordinate construct, encompassing both a lack of anxiety and positive self-ratings of proficiency in interactions with members of the target language community. In a series of factor analytic studies of francophones learning English in bilingual communities, Clement and his colleagues found evidence for a Self-confidence factor. Clement, Major, Gardner and Smythe (1977) found a self-confidence factor that was defined by positive teacher ratings, positive course evaluation, use of the second language outside the classroom and a lack of language anxiety. Clement, Gardner and Smythe (1977, 1989) found that self-confidence could be defined by a lack of language anxiety and positive self-rated proficiency in the second language. In all three studies, self-confidence was found to be related to objective measures of proficiency, as well as indices of motivation.

Gardner, Smythe and Lalonde (1984) investigated the factor structure of similar scales in their study of
English Canadian students of French across different regions of Canada and various grade levels. The factors were found to replicate fairly consistently, and language anxiety was most often associated with a factor related to the self-perception of French competence and, less often, a French achievement factor. These authors conclude that when the opportunity to use the foreign language is present in the community, language anxiety is negatively correlated with second language proficiency.

Clément's model has emerged from a combination of these studies with the work of social psychologists on the social consequences of language acquisition and has received empirical support (Clément & Kuiken, 1985). Clément's theory (1980, 1986) postulates two motivational processes present in bilingual/multicultural communities. The primary motivational process is based on the antagonistic interplay between integrativeness and the desire to affiliate with the other group, on the one hand, and fear of assimilation and worry over losing one's cultural identity, on the other. Clément (1980) argues that the result of this process will determine the extent to which individuals make contact with members of the other group. The secondary motivational process is based on the frequency and quality of contact between the student and members of the target language community. This contact, if positive, can improve self-confidence with the new language, thus contributing to the student's motivation. Within monolingual communities, self-confidence would be less influential because of fewer instances of intergroup contact.

Labrie and Clément (1986) found support for this model in that less frequent, but positive contact was associated with improved self-confidence. Also, self-confidence was associated with motivation to use the second language. In a similar manner, Pak, Dion and Dion (1985) investigated Chinese immigrants learning English in a large city and found that self-confidence with English (as defined by self-rated proficiency only) was associated with linguistic assimilation into the English speaking community. Thus self-confidence, in a multicultural context, appears to have motivational as well as anxiety-related components.

Research on language anxiety and self-confidence indicates that these variables play an important role in second language learning. Language anxiety is negatively related to proficiency whereas self-confidence is positively related. The processes underlying the two related concepts appear similar in that they both develop as a result of experiences associated with learning and using the second language. One possibility is that a multicultural social milieu enhances correlates of language anxiety and produces a more complex construct combining language anxiety, self-perceptions of proficiency and attitudinal/motivational components. Another is that the underlying construct is the same in both multicultural and unicultural contexts, but that the focus of the different researchers, and the measures used, emphasize slightly different aspects. Clearly, more research is needed to clarify which possibility is most appropriate. In any event, indices of language anxiety are generally associated with self-perceptions of competency and objective measures of proficiency and often show low but negative correlations with motivation. In both research traditions, too, language anxiety is shown to be associated with experiences with the second language.

Such considerations lead to the generalization that language anxiety has a negative effect on second-language acquisition. Its relation to motivational characteristics is less clear cut, and it may well be that this is mediated by socio-cultural factors. Intuitively, it seems reasonable to propose that high levels of anxiety might serve to lessen one's motivation to learn the language, because the experience is found to be painful, and that high levels of motivation result in low levels of anxiety because the student perceives the experience positively and tends to be successful—both of which decrease anxiety. Nonetheless, further research is required to determine the precise nature of the relationship, if any, between anxiety and motivation.

A theoretical integration

In Part I of this review (Gardner & MacIntyre, 1992) attention was directed toward the relation to second-language learning of three classes of cognitive individual difference variables, namely, Intelligence, Language aptitude, and Language-learning strategies. In this part, attention focused on attitudes, motivation, language anxiety and self-confidence. This final section is devoted to providing a theoretical overview of how such factors can influence, and in some cases be influenced by, the language-learning process. This overview is presented in the form of a revised version of the socio-educational model of second-language learning that was presented in Part I (Gardner & MacIntyre, 1992). This revised model is presented in Figure 1. In the figure, the socio-cultural milieu is shown as over-riding all aspects of the model. That is, when considering the process of second-language acquisition, it is recommended that close attention be directed to the social context in which the learning is taking place. Although Au (1988) argues that such a concept 'may serve only to render the theory immune to disconfirming evidence, thereby grant-}


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Figure 1. Schematic representation of the Socio-education model of second language acquisition.

delineates the significant features of the social milieu that influences the role of individual differences in language acquisition. Some research based on a different theoretical model is already under way in this regard (see, for example, Clement, 1980, 1986; Labrie & Clement, 1986), while at least one study (Clément & Kruidenier, 1983) demonstrated that even the reasons for studying a second language tended to group together to form different orientations as a function of the socio-cultural milieu. Moreover, Kraemer (1990) demonstrated that the socio-educational model could be modified successfully to take into consideration social forces that might operate in a specific language-learning situation. It is simplistic to assume that a language-learning model should not make explicit recognition of the very dominant role played by the social context. Would one really expect, for example, that attitudes toward the other community would be related positively to the motivation to learn the language of that community by military personnel who may consider the community a potential enemy?

The model posits that there are a number of Antecedent factors that must also be considered when attempting to study the role of individual difference variables in the process of learning a second language. These are described simply as biological and experiential in the model, with no exemplars or roles shown. Examples of such factors, however, would include gender, age, prior language training, etc. Rather than attempt to describe all the possible roles that such factors might play, it seems best to propose that, at a minimum, they should be considered by an investigator when planning a study. It seems reasonable to propose, for example, that there is a biological foundation for intelligence that age might influence what language-learning strategies are used, or that prior experience with a language could influence levels of language attitudes, motivation and/or language anxiety. Clearly, any study of individual differences in second-language acquisition would have to ensure that subjects were relatively homogeneous with respect to prior training in that language in order to rule out confounding effects of prior achievement in the current language-learning process.

Six major individual difference variables are shown in Fig. 1. Intelligence, language aptitude, and language-learning strategies are considered as cognitive individual difference variables. In the model they are shown as being relatively independent of one another (they are not linked by any directional arrows), even though it is recognised that they might correlate significantly in any study. The measures might well share some variance in
common, but it seems reasonable to assume that a factor analytic study with sufficient marker variables would show that the effective variances are in fact independent. This has been shown to be the case, at least, for intelligence and language aptitude (Gardner & Lambert, 1965).

Language attitudes, motivation and language anxiety are considered as affective individual difference variables. The concept of language attitudes refers to any attitudinal variables that might be implicated in the language-learning context. Earlier, two major classes, Integrativeness and Attitudes toward the learning situation were discussed, but others have been investigated (see, for example Glicksman, 1981; Clément & Kruidenier, 1985; Kraemer, 1990). In the model, language attitudes are shown as having a causal influence on motivation (as indicated by the directional arrow). The point is, that motivation needs an affective basis to be maintained, and it seems reasonable to argue that attitudes serve this function. In the figure, motivation is shown as having a causal influence and as being causally influenced by language anxiety (the two arrows). These two variables tend to be negatively correlated, and it seems meaningful to argue, given our current state of knowledge, that not only might high levels of motivation tend to depress language anxiety but also that high levels of anxiety might decrease motivation. The model also shows causal links from language anxiety and motivation to language-learning strategies. The research by Oxford and Nyikos (1989) and by Rost and Ross (1991) points to the motivational foundation for the use of language-learning strategies while anxiety reduction techniques could be considered as indirect learning strategies (Oxford, 1990a). Obviously, more research is required, but at the present time, it seems meaningful to postulate such causal connections.

When attention is directed to the Language acquisition contexts, all of the individual difference variables, with the exception of language attitudes, are shown as having a direct effect on learning in the formal language-learning environment (solid directional arrows). This is meant to indicate that in any learning situation where material or skill is being transmitted to a learner in some way, individual differences in intelligence, language aptitude, the use of language-learning strategies, motivation and language anxiety will influence how successful that individual will be acquiring that material or skill. Each will play a role in its own way, some of which were discussed or hypothesised in earlier sections of this article.

Only motivation is shown to have a direct role in the informal context (the dotted arrow from motivation to informal contexts). Because of the voluntary nature of the informal context, it is expected that individuals who are not motivated will simply not take part in the context, while those who are motivated will. Once an individual enters an informal context, however, the other individual difference variables will be implicated and could influence how well material is learned. As above, the role played will be influenced by the relevance of the task to that particular variable. The indirect effects of the other variables are shown by the broken arrows linking them to the informal contexts. No link is shown between language attitudes and the informal language learning context. This is because it is assumed that motivation mediates any relation between language attitudes and language achievement.

Both formal and informal language acquisition contexts are assumed to have direct effects on both linguistic and non-linguistic outcomes (the solid arrows). Thus, the model formally recognises the importance of what takes place in both contexts. Teachers, instructional aids, curricula, and the like clearly have an effect on what is learned and how students react to the experience. Moreover, the model postulates a causal link from the linguistic outcomes to the non-linguistic outcomes, a recognition that individuals' reactions to the learning experience will depend to some extent on their relative degree of success. Finally, it is proposed that both linguistic and non-linguistic outcomes will have an influence on individual difference variables. Based on the research to date (Oxford & Crookall, 1989; Oxford & Nyikos, 1989) it seems clear that achievement in the language will influence the use of language-learning strategies. For this reason, linguistic outcomes are shown as having an effect on language-learning strategy use. Non-linguistic outcomes are expected in turn to have direct effects on language attitudes, motivation and language anxiety.

Other variables might be added to this model with no loss in generality, but the intent of this two-part article was simply to review the major ones. Thus, for example, some research has demonstrated links between personality variables and language achievement (see, for example, Lalonde, 1982; Ehman, 1990; Oxford, 1990b) and between language achievement and learning style variables such as field dependence/independence (Oxford, 1990b; Chapelle & Green, 1992). These variables were not considered in this article, in part because of space limitations and in part because of our belief that their functional roles in the language-learning process are still not clear. Further research could well profit from a consideration of their relationship to variables discussed in this two-part article.

Cook's review of the literature in 1978 demonstrated the breadth of variables that can influence language acquisition. Over the past 15 years, the boundaries have been greatly expanded and our knowledge base deepened. The sheer volume of
research currently available points to the complexity of the language-learning process and the need for further research to consider the many remaining questions. As this review attests, there is still much to be done. Hopefully, the theoretical formulation proposed here will help in this regard.

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State of the art: Second language learning. Part 2


