

The Attitude/Motivation Test Battery: Technical Report (1985)¹

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The goals of any second language programme are partly linguistic and partly non-linguistic. The linguistic goals focus on developing competence in the individual's ability to read, write, speak and understand the second language, and there are many tests available with which to assess these skills. Non-linguistic goals emphasize such aspects as improved understanding of the other community, desire to continue studying the language, an interest in learning other languages, etc. Very few tests have been made available to assess these non-linguistic aspects.

The Attitude/Motivation Test Battery has been developed to fill this need. Its development follows more than 20 years of research, much of which has been directed to the investigation of English-speaking students learning French as a second language. As a consequence, the items comprising the battery are concerned primarily with French. Throughout this report, therefore, attention will be directed toward the sub-tests concerned with aspects of learning French as a second language.

Other investigations have either modified these items or used comparable ones to study the learning of English by French-speaking students in Canada (Clément, Gardner & Smythe, 1977a) senior high school students in the Philippines (Gardner & Lambert, 1972), students in Finland (Laine, 1977) and elementary students in Belize (Gordon, 1980), and the learning of Spanish by American high school students (Muchnick & Wolfe, 1982). Although these tests often make use of sub-tests with the same names, the validity and reliability data presented in this report may or may not be applicable to them. The items in this test were developed for the Canadian context and for English speaking Canadians learning French in elementary and secondary school. Changing the setting, the language or the general socio-cultural milieu in which the language programme exists might necessitate major changes in the items to make them meaningful and relevant. At least, researchers should be concerned with the issues involved in transporting items to other contexts.

The Attitude/Motivation Test Battery has been used in many different forms. The original formulations of the major concepts as well as the original items were developed by Gardner (1958; 1960) and extended by Gardner and Lambert (1972). Full scale item development and concern with internal consistency reliability of the sub-tests which led to the present version was initiated by Gardner and Smythe (1975a). A summary of the initial cross validation is presented by Gardner and Smythe (1981).

The composition of the Attitude/Motivation Test Battery varies somewhat from form to form depending upon the purpose for which it is intended. In this report, I have included only those sub-scales that were developed largely in our laboratory (see Gardner & Smythe, 1981).

¹This report is a revised version of the Attitude and Motivation Text Battery - Revised Manual initially prepared by R. C. Gardner, R. Clément, P. C. Smythe and C. L. Smythe as Research Bulletin No. 10 by the Language Research Group, Department of Psychology, University of Western Ontario. I would like to thank Ljiljana Mihic and Anne-Marie Masgoret for their assistance in producing this electronic form of the report.

Appendices A.1, A.2, and A.3 present the items comprising each of these sub-tests, but when used the items in Appendix A.1 are randomly presented and often interspersed with other items measuring other attributes such as authoritarianism (Adorno, Frenkel-Brunswik, Levinson and Sanford, 1950), ethnocentrism (e.g., Frenkel-Brunswik, 1949), anomie (Srole, 1951), etc. Similarly, the items in Appendix A.2 are randomized and presented as a single test.

It will be noted that the majority of the items are positively worded. This was necessary so that most of the evaluative items would be relatively innocuous to school age children and thus acceptable to the various Boards of Education in whose schools we have conducted our research. The use of such items leads to possible confounds with response bias, acquiescence, and the like, but was necessary at the time. Modifications of this battery for use in a university context has been done by Gliksman (1981) and Lalonde (1982) who have made greater use of positively and negatively worded items.

Appendix A.1 presents the items for eight sub-tests using a Likert (1932) seven alternative response format. In each case, individuals are presented with the item followed by the seven alternatives. An example is:

Canadian hockey players are the best in the world.

Strongly	Moderately	Slightly	Neutral	Slightly	Moderately	Strongly
Disagree	Disagree	Disagree		Agree	Agree	Agree

Individuals circle the alternative which best indicates their personal feeling. The sub-tests using this format are as follows:

1. Attitudes toward French Canadians. This scale consists of ten positively worded items about French Canadian people. A high score on this measure (maximum = 70) indicates positive attitudes toward French speaking Canadians.
2. Interest in Foreign Languages. This measure consists of ten positively worded items (maximum = 70) designed to assess subjects' general interest in studying foreign languages. No specific language is mentioned in the items.
3. Attitudes toward European French People. This scale consists of ten positively worded statements about the European French. A high score on this scale (maximum = 70) indicates a positive attitude toward European French people.
4. Attitudes toward Learning French. This is a ten item scale adapted from Randhawa & Korpan (1973). Five of the items are positively worded, while five express negative sentiments. A high score (maximum = 70) indicates a positive attitude toward learning French.
5. Integrative Orientation. The four items in this scale emphasize the importance of learning French in order to permit social interaction with French Canadians or others who speak French. A high score on this scale (maximum = 28) indicates that a student endorses integrative reasons for studying French.

6. Instrumental Orientation. Students are presented with four items which stress the pragmatic or utilitarian value of learning French. A high score (maximum = 28) indicates that the student endorses instrumental reasons for learning French.

7. French Class Anxiety. A five item scale with a high score (maximum = 35) reflecting subjects' degree of discomfort while participating in the French class.

8. Parental Encouragement. These ten positively worded items assess the extent to which students feel their parents support them in their French study. A high score (maximum = 70) indicates a high level of perceived parental encouragement.

Three sub-tests are presented in the form of a multiple choice test in which students circle the alternative they feel best describes them. The items for the three sub-tests are presented in a randomized order, though in Appendix A.2 they are grouped by sub-test. Also in that appendix, the weights for each alternative are presented in front of it, but these would not appear on the student's questionnaire. The three sub-tests are:

9. Motivational Intensity. This measure consists of ten multiple choice items which are designed to measure the intensity of a student's motivation to learn French in terms of work done for classroom assignments, future plans to make use of and study the language, etc. A high score represents a student's self report of a high degree of effort being spent in acquiring the language.

10. Desire to Learn French. Ten multiple choice items (maximum score = 30) are included in this scale with a high score expressing a strong desire to learn French.

11. Orientation Index. This sub-test consists of one item. Students are presented with four possible reasons for studying French, two of which stress its instrumental value and two its integrative value. The sub-test is scored dichotomously. Students selecting either instrumental reason are scored 1; those selecting either integrative reason are scored 2.

Eight sub-tests are assessed by means of a semantic differential format (Osgood, Suci & Tannenbaum, 1957). The concepts, My French Teacher and My French Course are each rated on 25 semantic differential scales (see Appendix A.3), and four scores are derived for each concept. These are:

12. French Teacher - Evaluation. The ratings on 10 evaluative scales are summed to reflect students' general evaluative reactions to their French teacher. The items are scored in the direction indicated below such that a high score (maximum = 70) indicates a positive evaluation. The evaluative scales are unfriendly-friendly, unreliable-reliable, inconsiderate-considerate, bad-good, unpleasant-pleasant, inefficient-efficient, impolite-polite, insincere-sincere, undependable-dependable, and cheerless-cheerful.

13. French Teacher - Rapport. Teacher-pupil rapport is measured by five scales. The higher the score (maximum = 35) on this sub-test, the greater the perceived rapport and warmth of the teacher. The scales, keyed in the "rapport" direction, are suspicious-trusting, insensitive-sensitive, unapproachable-approachable, impatient-patient, and disinterested-interested.

14. French Teacher - Competence. Students' perception of their teacher's competence is tapped by five scales. A high score (maximum = 35) reflects a high degree of perceived competence. The scales are disorganized-organized, unindustrious-industrious, unintelligent-intelligent, incapable-capable, and incompetent-competent.

15. French Teacher - Inspiration. Subjects rate the extent to which they feel that their teachers inspire them to learn French. Five scales comprise this measure. High scores (maximum = 35) are indicative of high levels of inspiration and interest. The scales are colourless-colourful, unimaginative-imaginative, dull-exciting, tedious-fascinating, and boring-interesting.

16. French Course - Evaluation. Subjects' general evaluative reactions to the French course are assessed with 10 scales scored such that the higher the score (maximum = 70), the more positive a subject's evaluation of the course. The scales are bad-good, disagreeable-agreeable, painful-pleasurable, unsatisfying-satisfying, awful-nice, unpleasant-pleasant, unenjoyable-enjoyable, unrewarding-rewarding, worthless-valuable, and unappealing-appealing.

17. French Course - Difficulty. Ratings on five scales are summed to provide an estimate (maximum = 35) of the perceived difficulty of the course. They are simple-complicated, elementary-complex, effortless-hard, clear-confusing, and easy-difficult.

18. French Course - Utility. Five scales comprise this subtest. A high score (maximum = 35) is associated with a high level of perceived utility. The scales are noneducational-educational, meaningless-meaningful, unnecessary-necessary, useless-useful, and unimportant-important.

19. French Course - Interest. Five scales are summed such that the higher the score (maximum = 35) the more interest subjects had in the course. The scales are tedious-fascinating, monotonous-absorbing, boring-interesting, dull-exciting, and colourless-colourful.

Ten of these 19 measures are used in the computation of four composite indices. These composite scores are as follows:

1. Integrativeness. This index reflects affective reactions of the individual toward francophones, his/her desire to learn French for integrative (or social) reasons, and his/her general interest in other languages. This is intended to assess attitudinal reactions applicable to the learning of a second language which involves the other language community or other groups in general. It comprises the sum of scores on the following scales: Attitudes toward French Canadians, Attitudes toward European French people (if appropriate or required), ratings of an Integrative Orientation, and Interest in Foreign Languages.

2. Motivation. This is an index of the individual's motivation to learn French. It incorporates the three-part conception of motivation consisting of the effort expended in learning French, the desire to learn French, and affective reactions toward learning French. The index is the sum of scores on Motivational Intensity, Desire to Learn French, and Attitudes toward Learning French.

3. Attitudes toward the Learning Situation. This is an index of the student's reactions to the language learning context. It is intended to assess students' attitudes toward the context in which languages are taught and is the sum of students' evaluations of the French teacher and the French

course. The other components (French teacher Rapport, Competence and Inspiration and French course Difficulty, Utility, and Interest) are not included in this index.

4. Attitude/Motivation Index (AMI). This index includes all items from the above three indices plus measures of French Classroom Anxiety (negatively weighted) and Ratings of an Instrumental Orientation. This composite score is used to produce one number which incorporates what currently appear to be the major attitudinal/motivational characteristics associated with proficiency in a second language.

The Attitude/Motivation Test Battery was validated and standardized on samples of anglophone Canadian students in grades 7 to 11. These samples were drawn from seven regions across Canada and consisted of approximately 1000 students at each grade level. Although every attempt was made to obtain representative samples of students in each region, practical considerations required that intact classes be used, and final decisions concerning which classes and schools were included were made by representatives of the school boards concerned. This report summarizes some of the major results obtained in that standardization and validation program.

The Attitude/Motivation Test Battery is a research instrument which has been developed to assess the major affective components shown to be involved in second language learning. To date, its major applications have involved investigations of (a) the correlations of sub-tests and composite test scores with indices of language achievement and behavioural intentions to continue language study, (b) the effects of specific programs, excursions, etc., on attitudinal/motivational characteristics, and (c) the relation of attitudes and motivation to classroom behaviour. It provides a reliable and valid index, however, of the various attitudinal/motivational characteristics which researchers may wish to investigate in many different contexts.

The Attitude/Motivation Test Battery is comprised of scales assessing the individual's affective reactions toward various groups, individuals and concepts associated with second language acquisition, and consequently discretion is required of the user. Individual test scores should not be compared or made public, nor should they be discussed with the individuals concerned. Scores on subtests represent attitudes inferred on the basis of individuals' opinions about specific items, and it is possible that students may give answers which they feel are desirable or "correct". As a consequence, care should be taken in the administration of the test to reduce possible confounds due to social desirability, and scores should be interpreted with caution.

The amount of confidence which can be placed in the results of the Attitude/Motivation Test Battery (or any attitude test for that matter) is affected by the care taken in its administration, and it is recommended that the test not be administered during times which will unduly affect responses to the various scales. Some situations which might be expected to influence students' responses include impending examinations, holidays and other special events, or, since some scales involve reactions toward ethnic groups, periods of social or political unrest involving these groups. When the test is used to evaluate special programs, it is advised that care be taken to dissociate the testing from the program concerned. This might not always be possible, but the user can at least play down the association. One way of achieving this is to have

a lengthy time period between the test administration and the beginning or end of the program; another way is to use test administrators not associated with the program.

The test battery can be administered to groups of students. In order to minimize disruption caused by questions and questionnaire distribution, it is recommended that the group not exceed 50 at the upper grade levels and 25 at the lower grade levels, and that at least two examiners be present. The testing room should be large enough to allow the students to complete the questionnaire privately. No time limit is set for administration of the test battery. Although younger students are expected to require more time than older ones, it should be possible for any student in grades 7 to 11 to complete the battery in a maximum of 30 minutes.

The activities of the examiner should be as unobtrusive as possible. Moving from one student to another or looking at a student's answers should be avoided. Disruptive behaviour on the part of students such as talking or making unnecessary noise should be discouraged. Failing this, the student should be asked quietly to leave the room. Any extraneous noise or disruption could influence students' answers.

Should questions be asked about the meaning of a particular item, it is important that the examiner's answers remain within the meaning and, as far as possible, within the vocabulary of the printed item. If it is necessary to explain a particular item, it is best to stay as close to the original item as possible. Of course, care should be taken not to influence the student to respond in any particular way.

Test Statistics

The Normative Sample

The statistics described in this section are based on samples of students tested in seven regions of Canada. In total, there were 914 students in grade 7; 1014 in grade 8; 1153 in grade 9; 1098 in grade 10, and 1010 in grade 11. Normative data are presented in more detail by Gardner, Smythe and Smythe (1974).

Reliability

Internal consistency. Table 1 presents the Cronbach coefficient α for all scales except Parental Encouragement for a total of 32 samples. Statistics for Parental Encouragement were included in the original version of this report, and they are no longer available. Earlier research with this scale demonstrated, however, median internal consistency estimates of .91 and .89 and median six week test/retest reliability of .79.

Insert Table 1 about here

The Cronbach coefficient α assesses the degree of homogeneity of the items within each scale and indicates the extent to which each scale is internally consistent. Inspection of Table 1 will reveal that, in general, the internal consistency reliability of the majority of scales is substantial. Although the range of the 544 coefficients presented is from .13 to .97, 483 or 89% exceed a value of .70. The median reliability for the total table is .85. The measure of Instrumental Orientation is the least reliable scale for four of the five grade levels presented, and in fact 29 of the 61 coefficients with values less than .70 are associated with this scale. The

remaining "low" reliability coefficients are scattered throughout the table, thus it seems reasonable to conclude that the one scale with relatively lower reliability is that for Instrumental Orientation. It was retained for the Battery because of its potential value and the fact that, though the reliability coefficients are lower than for the other scales, they are nonetheless acceptable. The median reliability for Instrumental Orientation is .62.

Test-Retest Reliability. Estimates of test-retest reliability are presented in Table 2. These were determined by correlating scores from two administrations of the test with an interval of approximately one year. With such a large time interval it is possible that many students actually change on the attributes assessed, thus particularly high reliability coefficients might not be expected. To a considerable extent this caution is justified by the test-retest reliability coefficients for reactions to the French teacher and the French course. Since both the teacher and the course would be expected to change from one year to the next, with perhaps more opportunity for the teacher to change, it would be expected that test-retest reliabilities would be low. This is in fact the case. The 72 reliability coefficients for reactions to the French teacher range from -.01 to .59 with a median of .32; for the French course they range from .14 to .76 with a median of .50.

Insert Table 2 about here

The reliabilities for the remaining nine measures are substantially higher. The median of the 162 values presented is .61, with 84% of the coefficients exceeding .50. Furthermore, of the 26 values which are less than .50, the majority are due to two scales, Instrumental Orientation and Attitudes toward European French People. The first scale has already been described as having lower internal consistency than the other measures, and the test-retest reliabilities simply confirm that this concept and the items assessing it need further clarification. At the present time, however, the reliabilities warrant using the measure even though it is less reliable than the other scales. The second scale, Attitudes toward European French People, probably has lower test-retest reliability simply because the attitudes themselves are less stable. It seems likely that the test itself is not unreliable, but rather that the underlying attitude is subject to change.

Taken together the two sets of reliability coefficients presented in Tables 1 and 2 would seem to warrant the generalization that the scales of the Attitude/Motivation Test Battery demonstrate a reasonable level of reliability.

Validity

Content Validity. Content validity refers to the extent to which the items in a scale sample all aspects of the construct it is meant to assess. For scales such as these, there is no simple statistical measure of the degree to which this requirement is satisfied. In constructing the scales, every attempt was made to identify the potential population of items which could be written, and the items developed attempted to reflect the construct in question. The judgment of item constructors and selectors therefore constitutes the basis for the content validity of the scales.

Predictive Validity. Not all the scales included in the Attitude/ Motivation Test Battery are expected to evidence a high correlation with the various criteria. It would be predicted that some scales would relate more highly to some criteria than others. Moreover, according to the proposed theoretical model, the motivational indices should generally be more highly related to

most criteria than the attitudinal measures (see Gardner, Glikman, & Smythe, 1978). These generalizations are also true of the composite indices which are developed from the sub-test scores. The three composite indices, Integrativeness, Attitudes toward the Learning Situation, and Motivation, however, emphasize the three major components tapped by the test and would provide more stable predictions of the various criteria than would the scales themselves. The AMI, representing as it does the total of the attitudinal/motivational factors, provides the most comprehensive assessment and should thus be more stable over all criteria even though in the case of certain criteria one of the more specific composite indices might produce higher relationships. Considerable research has documented the predictive validity of the various scales included in the test battery (see, for example, Clement, Gardner & Smythe, 1977; Gardner & Smythe, 1975; 1981; Glikman, 1981; Lalonde, 1982). These studies also provide information regarding aspects of construct validity.

Construct Validity. Construct validation involves a series of operations designed to determine the psychological reality of a variable or construct (Nunnally, 1978; Crano & Brewer, 1973). One method of establishing construct validity is the demonstration of the convergent and discriminant validity of a scale (Campbell & Fiske, 1959).

Convergent validity is demonstrated whenever a scale correlates with other measures with which it should correlate if the theoretical formulation underlying the construct is correct. Gardner (1985) presents considerable data relevant to the convergent validity of the scales and composite indices. These measures correlate meaningfully with indices of achievement in the second language, persistence in second language study, participation in inter-ethnic contact situations, and specific behaviours in the language classroom. The variety of contexts in which the scales have been shown to relate to other measures with which they should relate provides solid support for their convergent validity.

Discriminant validity is demonstrated whenever a scale is shown not to correlate with measures with which it should not correlate if the theory underlying the construct is correct. It could be argued, for example, that, while these scales correlate well with indices of French achievement, they also correlate with other indices of intellectual achievement, indicating that the Attitude/Motivation Battery lacks discriminant validity. The available evidence suggests that this is not the case, however.

The material presented in Table 3 demonstrates both the discriminant and convergent validity of the composite AMI index formed from sums of scale scores. Table 3 presents the correlations of AMI and the Modern Language Aptitude Test (MLAT) (Carroll & Sapon, 1959) with French grade and academic average for grades 7 to 11 in each of two regions. In this context, academic average involved the mean grade of all subjects other than French. For both the AMI and the MLAT the correlations with French grade can be viewed as indices of convergent validity; to the extent that the correlations are high, it indicates that they are related to performance in French as reflected in French grades. The correlations with academic average, on the other hand, can be viewed as indices of discriminant validity. If they are low, they indicate that the AMI and the MLAT are not measuring attributes that are important for academic achievement; if they are high, it suggests that the index, either AMI or MLAT, is important for academic achievement and hence lacks discriminant validity.

Insert Table 3 about here

Inspection of Table 3 reveals that both the AMI and MLAT evidence considerable convergent validity. AMI correlates significantly with French grades in nine of the ten instances; MAT correlates significantly with French grades in all cases. Furthermore, except at the grade 11 level in both samples, MLAT correlates higher with French achievement than AMI. Table 3 reveals further, however, that AMI evidences good discriminant validity in that only two of the correlations with academic average are significant. The MLAT, on the other hand, evidences poorer discriminant validity in that all but one of the correlations with academic average are significant. These results suggest that, whereas the AMI taps attributes which are specifically associated with achievement in French as a second language, the MLAT appears to tap characteristics which are related both to second language acquisition and to academic achievement.

Table 3 also presents partial correlation coefficients for both the AMI and the MLAT removing the effects of academic average from both the composite indices and the criterion, French grade. This statistic was included to estimate the "true" convergent validity. By partialling out the effects of academic achievement from the French grade and AMI, the resulting correlation would appear to provide a more accurate estimate of the relation of "pure" attitudinal/motivational measures with "pure" measures of French proficiency, both uncontaminated with academic achievement. The same logic applies for the partial correlation of the MLAT with French grades in that it assesses the relationship between ability and French achievement, uncontaminated with academic achievement. Inspection of these values will reveal that, in general, the coefficients for AMI tend to be larger than those for the MLAT; they exceed the corresponding value in seven of the ten cases. That is, where "true" convergent validity is concerned AMI appears better than the MLAT.

Table 4 presents comparable validity coefficients for objective paper and pencil tests of French achievement, measures of oral speech fluency and self-ratings of French skills. In the case of the objective measures, the simple correlations of the AMI are comparable to those of the MLAT, whereas seven of the ten partial correlations are higher for the AMI than for the MLAT. For the five samples on which speech data were obtained, the MLAT correlates more highly with speech proficiency in three instances, and this slight margin holds for the partial correlations. With respect to the self-ratings of proficiency, AMI is a better predictor than the MLAT in nine of the ten samples when either simple correlations or partial correlations are considered. Such data support the conclusion that the AMI demonstrates a relatively high level of validity.

Insert Table 4 about here

Table 5 presents convergent validity for the three composite measures, Motivation, Integrativeness, and Attitudes toward the Learning Situation. Inspection of the table will reveal that in the majority of cases the index of Motivation correlates more highly with the criterion than either Integrativeness or Attitudes toward the Learning Situation. The percentage of times it produced the highest correlations were 89% for French grades, 65% for objective indices of French achievement, 75% for Speech Fluency, and 91% for Self Ratings of French proficiency. The two attitude indices were about equal in terms of their correlations with the criteria. Comparing the two, Integrativeness evidenced higher correlations for the objective measures of

French achievement 74% of the time and for Speech Fluency 75% of the time; Attitudes toward the Learning Situation had higher correlations 54% of the time for French grades and 59% of the time for Self Ratings of proficiency.

Insert Table 5 about here

Table 6 presents a comparison of the correlations of AMI and the short form of the MLAT with French grades, the multiple correlation of both measures with French grades and the correlation between the AMI and the MLAT. The correlations involving AMI range from .15 to .50 with a median of .37; those for the MLAT range from .19 to .59 with a median of .42. The coefficients for the MLAT exceed those for the AMI in 20 of the 28 instances, indicating that ability is a slightly better correlate of French grades than attitudinal/ motivational characteristics. Inspection of the two remaining columns of Table 6 will indicate, however, that in general the AMI is independent of the MLAT, hence prediction of grades is considerably improved by considering both measures rather than either separately. The correlations between the AMI and MLAT are generally low and not significant. They range from -.06 to .33 with a median of .12, showing the relative independence of the two indices. The multiple correlations show how prediction is improved by considering these two independent measures. The median multiple correlation is .52; the range is from .35 to .69.

Insert Table 6 about here

Table 1
Cronbach Coefficient α Reliabilities

Vars	Area 1				Area 2				Area 3				Area 4				Area 5			Area 6				Area 7								
	8	9	10	11	7	8	9	10	11	7	8	9	10	11	7	8	9	10	11	9	10	11	7	8	9	10	11	7	8	9	10	11
FCA	78	81	80	76	72	77	82	77	85	67	77	80	81	84	74	77	74	84	83	75	83	83	68	78	77	73	84	73	76	80	81	81
AFC	84	88	88	85	86	85	84	90	88	86	89	88	88	92	90	87	90	90	88	87	87	80	71	74	67	83	79	87	87	86	89	87
IFL	86	88	89	81	88	88	84	81	86	83	89	85	90	88	89	89	88	86	85	89	83	88	82	82	72	83	80	88	86	86	86	87
INS	66	63	63	51	68	61	58	56	22	67	74	59	62	63	71	77	67	62	64	65	34	13	59	65	25	53	44	62	60	52	53	39
INT	85	86	86	78	88	80	80	84	80	78	85	80	83	83	87	83	83	86	76	84	78	80	73	74	62	78	67	86	82	83	82	78
ALF	92	94	95	91	94	92	94	93	93	95	96	95	95	94	94	95	94	95	94	93	94	91	83	87	85	91	91	94	95	94	94	91
AEF	89	91	91	90	90	90	91	91	93	89	90	90	92	93	91	93	93	92	92	94	91	87	85	87	81	94	85	88	89	90	91	91
MI	82	82	85	71	94	80	82	75	80	87	84	80	82	80	90	89	84	83	81	83	79	86	81	78	71	87	69	85	86	87	80	77
DLF	86	87	87	77	89	86	86	81	84	90	93	86	87	83	93	91	87	87	84	84	83	84	82	78	80	86	79	88	88	87	83	83
FTE	93	92	93	95	87	91	90	90	88	92	94	90	88	93	95	94	93	90	91	93	94	92	91	79	84	90	79	89	91	89	90	89
FTR	78	79	75	86	67	70	57	70	77	74	78	74	83	81	81	83	78	78	75	79	80	70	81	66	64	65	39	61	73	71	71	69
FTC	79	77	82	80	66	75	74	69	74	76	83	66	69	81	85	85	82	82	74	79	74	70	79	57	58	84	61	67	77	76	75	74
FTI	84	85	90	90	80	83	84	90	92	82	89	85	86	87	86	87	78	90	87	88	85	82	81	71	71	71	72	73	84	77	84	84
FCE	95	96	97	94	95	95	94	96	96	94	97	95	96	95	96	97	95	96	96	94	95	93	90	86	85	93	91	93	94	96	94	94
FCD	63	82	83	88	65	77	88	86	89	66	82	81	89	87	62	66	74	84	85	85	81	83	61	63	72	67	84	77	77	77	89	86
FCU	89	90	90	83	90	91	88	84	83	92	91	86	90	85	91	93	89	88	81	84	90	81	84	78	80	93	89	91	90	92	87	86
FCI	86	92	93	91	89	89	90	93	92	86	91	89	90	92	88	90	88	93	89	87	92	87	75	75	74	82	86	82	86	89	91	89

Decimals points omitted.

Table 2
Test-Retest Reliabilities

Variables	Area 2					Area 3			Area 4					Area 7				
	7	8	9	10	11	9	10	11	7	8	9	10	11	7	8	9	10	11
FCA	52	65	68	64	82	51	67	63	55	59	54	67	64	59	47	66	57	69
AFC	57	61	57	75	62	72	74	80	57	66	59	45	59	59	57	63	55	74
IFL	65	66	70	60	78	81	83	82	69	52	62	54	66	71	62	72	70	56
INS	48	38	54	59	47	50	47	62	52	36	42	60	53	46	50	45	37	47
INT	66	61	55	69	63	59	66	70	62	45	41	49	56	52	56	49	35	47
ALF	66	51	71	71	65	59	71	63	70	67	58	53	74	68	68	66	58	70
AEF	42	51	56	47	41	64	63	59	42	53	40	57	55	34	47	46	66	58
MI	63	60	61	63	71	55	67	73	71	66	52	57	65	70	72	74	52	56
D	65	60	73	70	51	57	79	67	67	63	65	61	75	72	67	75	61	62
FTE	29	41	44	01	37	31	36	11	40	40	39	14	31	28	39	35	24	39
FTR	27	39	20	03	40	36	34	28	27	33	43	03	35	48	29	14	02	38
FTC	24	29	32	13	42	48	55	05	39	22	42	29	33	17	27	36	16	32
FTI	32	43	40	07	46	24	38	21	31	32	29	04	44	36	30	31	19	59
FCE	33	50	62	41	76	44	55	30	62	65	58	29	65	64	53	57	46	57
FCD	43	54	47	33	58	39	49	50	41	14	47	55	72	32	37	18	60	46
FCU	38	44	46	39	53	41	58	42	62	56	51	33	54	58	44	54	26	50
FCI	41	44	61	44	70	46	54	50	54	64	49	20	59	55	40	62	44	54

Decimals points omitted.

Table 3
Correlations of AMI and MLAT with
French Grades and Academic Average

	AMI			MLAT		
	French Grades	Academic Average	Partial r	French Grades	Academic Average	Partial r
Area 1						
Grade						
7	.37**	.32**	.21*	.49**	.48**	.23
8	.40**	.13	.45**	.56**	.52**	.31
9	.36**	.15*	.34**	.50**	.54**	.27
10	.24**	.07	.23**	.46**	.25**	.42
11	.42**	-.03	.43**	.23**	.26**	.21
Area 2						
Grade						
7	.31**	.17	.27*	.33**	.44**	.07
8	.30**	.00	.34**	.37**	.41**	.21
9	.20	.24	.08	.38**	.36**	.23
10	.26*	.10	.24	.26*	.22	.21
11	.44**	-.03	.57**	.21*	.25*	.08

* p < .05

** p < .01

Table 4

Correlations of AMI and MLAT with Objective Measures of French Achievement, Ratings of Speech Proficiency (where available), and Self Ratings of French Skill

	Objective Measures				Speech Proficiency				Self-Rating			
	Correlation		Partial Correlation		Correlation		Partial Correlation		Correlation		Partial Correlation	
	AMI	MLAT	AMI	MLAT	AMI	MLAT	AMI	MLAT	AMI	MLAT	AMI	MLAT
Area 1												
Grade												
7	.36**	.27**	.27**	.11					.49**	.12	.42**	-.06
8	.37**	.44**	.35**	.28**					.46**	.37**	.45**	.27**
9	.07	.44**	.02	.33**					.41**	.19**	.40**	.15
10	.19**	.44**	.19*	.44**	.28*	.52**	.27*	.51**	.32**	.05	.32**	.03
11	.49**	.43**	.50**	.41**	.51**	.45**	.54**	.41**	.37**	.18*	.37**	.17
Area 2												
Grade												
7	.31**	.13	.29**	.06	.22*	.31**	.18	.23**	.26**	.12	.24*	.07
8	.27**	.33**	.27**	.30*	.19*	.32**	.19	.29**	.16	.27**	.16	.28*
9	.16	-.10	.10	-.21	.17	.00	.09	-.15	.26**	.03	.24	-.01
10	.26*	.17	.25	.15					.17	-.14	.23	-.06
11	.14	.19	.16	.10					.32**	-.21*	.32*	-.19

* $p < .05$

** $p < .01$

Table 5
Correlations of the Three Composite Measures, Motivation, Integrativeness,
and Attitudes Toward the Learning Situation with Four Criteria

	French Grade			Objective Achievement			Speech			Self Ratings		
	MOT	INT	ALS	MOT	INT	ALS	MOT	INT	ALS	MOT	INT	ALS
Area 1												
Grade												
8	.36**	.22**	.30**	.14*	.05	.04				.44**	.34**	.22**
9										.51**	.31**	.40**
10	.40**	.32**	.29**	.26**	.21**	.13				.40**	.22**	.33**
11	.40**	.29**	.37**	.21**	.27**	.21**	.26	.35*	-.04	.29**	.09	.25**
Area 2												
Grade												
7	.39**	.24**	.29**	.35**	.33**	.19**				.53**	.34**	.36**
8	.38**	.34**	.27**	.38**	.29**	.27**				.47**	.31**	.33**
9	.39**	.24**	.20**	.07	-.02	.03				.40**	.23**	.33**
10	.27**	.12	.10	.25**	.18**	.04	.29*	.24*	.20	.34**	.16*	.29**
11	.39**	.27**	.38**	.50**	.31**	.42**	.49**	.37**	.56**	.42**	.16*	.31**
Area 3												
Grade												
7	.50**	.26**	.43**	.50**	.26**	.43**	.22	.06	.13	.43**	.21*	.40**
8	.31**	.14	.26*	.29**	.20	.32**				.49**	.37**	.36**
9	.46**	.29**	.36**	.25**	.20**	.10	.43**	.40**	.25**	.36**	.28**	.23**
10	.43**	.24**	.35**	.33**	.30**	.20*				.44**	.24**	.32**
11	.16	.13	.06	.10	.14	.10	.49**	.34*	-.01	.34**	.17*	.19*
Area 4												
Grade												
7	.33**	.30**	.26**	.44**	.48**	.34**	.49**	.40**	.39**	.47**	.30**	.36**
8	.32**	.28**	.29**	.47**	.40**	.43**				.64**	.54**	.55**
9	.41**	.25**	.34**	.23**	.10	.20*	.41**	.25*	.34**	.32**	.24**	.26**
10	.26**	.23**	.18**	.23**	.19**	.16*				.40**	.26**	.28**
11	.49**	.35**	.29**	.14*	.28**	.14*	.56**	.44**	.40**	.34**	.27**	.17*
Area 5												
Grade												
9	.34**	.18*	.28**	-.02	.10	.00	.09	.10	.03	.09	-.19*	.10
10	.40**	.47**	.28**	.28**	.39**	.00	.32**	.42**	.04	.28**	.40**	.09
11	.30**	.23*	.26*	.11	.10	.11	.16	.11	.13	.28*	.26*	.14
Area 6												
Grade												
7	.30**	.24**	.22**	.19*	.27**	.26**	.15	.22**	.19*	.27**	.18*	.17
8	.36**	.21*	.28**	.28**	.19*	.15	.25**	.19*	.05	.28**	.02	-.01
9	.31*	.33**	-.17	.13	.22	.00	.28*	.21*	-.10	.34**	.10	.11
10	.42**	.29*	.44**	.18	.10	.43**				.26*	.03	.26**
11	.49**	.31**	.24*	.18	.09	-.01				.38**	.15	.20
Area 7												
Grade												
7				.36**	.28**	.21**	.10	.06	.11	.36**	.27**	.23**
8				.35**	.30**	.26**	.42**	.32**	.38**	.53**	.33**	.30**
9				.43**	.33**	.31**	.50**	.43**	.40**	.56**	.43**	.41**
10	.53**	.35**	.41**	.38**	.32**	.17**	.50**	.39**	.24**	.41**	.30**	.27**
11	.26**	.13	.09	.05	.30**	.05	.21	.06	.00	.40**	.42**	.14

* p < .05 ** p < .01

Table 6
 Correlations of AMI and MLAT with French Grades, Correlations of AMI
 and MLAT and Multiple Correlations of Both Measures with French Grades

	AMI x Grades	MLAT x Grades	AMI x MLAT	Multiple Correlation
Area 1				
Grade				
8	.37**	.44**	.08	.57
10	.42**	.43**	.07	.59
11	.43**	.59**	.22*	.67
Area 2				
Grade				
7	.37**	.49**	.19**	.57
8	.40**	.56**	.27**	.62
9	.36**	.50**	.28**	.55
10	.24**	.46**	.14*	.49
11	.42**	.23**	.16*	.45
Area 3				
Grade				
7	.43**	.19*	.01	.47
8	.29**	.55**	.02	.63
9	.42**	.46**	.20*	.48
10	.43**	.42**	.15	.55
11	.15	.50**	.07	.51
Area 4				
Grade				
7	.34**	.24**	.11	.40
8	.32**	.32**	.16	.42
9	.38**	.40**	.17*	.52
10	.28**	.41**	-.04	.51
11	.45**	.48**	.19*	.62
Area 5				
Grade				
9	.29**	.46**	.13	.52
10	.47**	.38**	.04	.60
11	.35**	.39**	-.06	.52
Area 6				
Grade				
7	.31**	.33**	.09	.43
8	.30*	.37**	-.06	.49
9	.20	.38*	.33**	.39
10	.26	.26	-.04	.38
11	.44**	.21	.09	.47
Area 7				
Grade				
10	.50**	.55**	.15*	.69
11	.23**	.27**	.05	.35
Median	.37	.42	.12	.52

* $p < .05$; ** $p < .01$

Appendix A.1

The Attitude/Motivation Test Battery

INSTRUCTIONS

The following instructions precede the Likert form items. The items are presented in a random order, and for school children each item is typically followed by the scale as indicated in the example below. Other versions used for university level students use the format as suggested by Adorno, Frenkel-Brunswik, Levinson and Sanford (1950).

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. We would like you to indicate your opinion about each statement by circling the alternative below it which best indicates the extent to which you disagree or agree with that statement.

Following is a sample item. Circle the alternative below the statement which best indicates your feeling.

1. Canadian hockey players are better than Russian hockey players.

Strongly	Moderately	Slightly	Neutral	Slightly	Moderately	Strongly
Disagree	Disagree	Disagree		Agree	Agree	Agree

In answering this question, you should have circled one of the above alternatives. Some people would circle Strongly Disagree, others would circle Strongly Agree, and still others would circle one of the alternatives in between. Which one you circled would indicate your own feelings based on everything you know and have heard. Note, there is no right or wrong answer. All that is important is that you indicate your personal feeling.

Please give your immediate reactions to each of the following items. Don't waste time thinking about each statement. Give your immediate feeling after reading each statement. On the other hand, please do not be careless, as it is important that we obtain your true feelings.

*

Items for the Likert Scales

Attitudes toward French Canadians

1. French Canadians are a very sociable, warm-hearted and creative people.
2. I would like to know more French Canadians.
3. French Canadians add a distinctive flavour to the Canadian culture.
4. English Canadians should make a greater effort to learn the French language.
5. The more I get to know the French Canadians, the more I want to be fluent in their language.
6. Some of our best citizens are of French Canadian descent.
7. The French-Canadian heritage is an important part of our Canadian identity.
8. If Canada should lose the French culture of Quebec, it would indeed be a great loss.
9. French Canadians have preserved much of the beauty of the old Canadian folkways.

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

Interest in Foreign Languages

1. If I were visiting a foreign country I would like to be able to speak the language of the people.
2. Even though Canada is relatively far from countries speaking other languages, it is important for Canadians to learn foreign languages.
3. I wish I could speak another language perfectly.
4. I want to read the literature of a foreign language in the original language rather than a translation.
5. I often wish I could read newspapers and magazines in another language.
6. I would really like to learn a lot of foreign languages.
7. 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.
8. I would study a foreign language in school even if it were not required.
9. I enjoy meeting and listening to people who speak other languages.
10. Studying a foreign language is an enjoyable experience.

Attitudes toward European French People

1. The European French are considerate of the feelings of others.
2. I have a favourable attitude towards the European French.
3. The more I learn about the European French, the more I like them.
4. The European French are trustworthy and dependable.
5. I have always admired the European French people.
6. The European French are very friendly and hospitable.
7. The European French are cheerful, agreeable and good humoured.
8. I would like to get to know the European French people better.
9. The European French are a very kind and generous people.
10. For the most part, the European French are sincere and honest.

Attitudes toward Learning French

Positively Worded Items

1. Learning French is really great.
2. I really enjoy learning French.
3. French is an important part of the school programme.
4. I plan to learn as much French as possible.
5. I love learning French.

Negatively Worded Items

1. I hate French.
2. I would rather spend my time on subjects other than French.
3. Learning French is a waste of time.
4. I think that learning French is dull.
5. When I leave school, I shall give up the study of French entirely because I am not interested in it.

Integrative Orientation

1. Studying French can be important to me because it will allow me to be more at ease with fellow Canadians who speak French.
2. Studying French can be important for me because it will allow me to meet and converse with more and varied people.
3. Studying French can be important for me because it will enable me to better understand and appreciate French Canadian art and literature.
4. Studying French can be important for me because I will be able to participate more freely in the activities of other cultural groups.

Instrumental Orientation

1. Studying French can be important for me only because I'll need it for my future career.
2. Studying French can be important for me because it will make me a more knowledgeable person.
3. Studying French can be important to me because I think it will someday be useful in getting a good job.
4. Studying French can be important for me because other people will respect me more if I have a knowledge of a foreign language.

French Class Anxiety

1. It embarrasses me to volunteer answers in our French class.
2. I never feel quite sure of myself when I am speaking in our French class.
3. I always feel that the other students speak French better than I do.
4. I get nervous and confused when I am speaking in my French class.
5. I am afraid the other students will laugh at me when I speak French.

Parental Encouragement

1. My parents try to help me with my French.
2. My parents feel that because we live in Canada, I should learn French.
3. My parents feel that I should continue studying French all through school.
4. My parents think I should devote more time to my French studies.
5. My parents really encourage me to study French.
6. My parents show considerable interest in anything to do with my French courses.
7. My parents encourage me to practise my French as much as possible.
8. My parents have stressed the importance French will have for me when I leave school.
9. My parents feel that I should really try to learn French.
10. My parents urge me to seek help from my teacher if I am having problems with my French.

Appendix A.2

The following instructions precede the items for the scales, Motivational Intensity, Desire to Learn French, and Orientation Index. The scoring key is not shown on the questionnaire when administered, and the items are presented in a random order.

Please answer the following items by circling the letter of the alternative which appears most applicable to you. We would urge you to be as accurate as possible since the success of this investigation depends upon it.

*

Items for the Scales Using the Multiple Choice Format

Motivational Intensity

Scoring

Key

I actively think about what I have learned in my French class:

- 3 a) very frequently.
- 1 b) hardly ever.
- 2 c) once in awhile.

If French were not taught in school, I would:

- 2 a) pick up French in everyday situations (i.e., read French books and newspapers, try to speak it whenever possible, etc.).
- 1 b) not bother learning French at all.
- 3 c) try to obtain lessons in French somewhere else.

When I have a problem understanding something we are learning in French class, I:

- 3 a) immediately ask the teacher for help.
- 2 b) only seek help just before the exam.
- 1 c) just forget about it.

When it comes to French homework, I:

- 2 a) put some effort into it, but not as much as I could.
- 3 b) work very carefully, making sure I understand everything.
- 1 c) just skim over it.

Considering how I study French, I can honestly say that I:

- 2 a) do just enough work to get along.
- 1 b) will pass on the basis of sheer luck or intelligence because I do very little work.
- 3 c) really try to learn French.

If my teacher wanted someone to do an extra French assignment, I would:

- 1 a) definitely not volunteer.
- 3 b) definitely volunteer.
- 2 c) only do it if the teacher asked me directly.

After I get my French assignment back, I:

- 3 a) always rewrite them, correcting my mistakes.
- 1 b) just throw them in my desk and forget them.
- 2 c) look them over, but don't bother correcting mistakes.

When I am in French class, I:

- 3 a) volunteer answers as much as possible.
- 2 b) answer only the easier questions.
- 1 c) never say anything.

If there were a local French T.V. station, I would:

- 1 a) never watch it.
- 2 b) turn it on occasionally.
- 3 c) try to watch it often.

When I hear a French song on the radio, I:

- 2 a) listen to the music, paying attention only to the easy words.
- 3 b) listen carefully and try to understand all the words.
- 1 c) change the station.

Desire to Learn French

During French class, I would like:

- 2 a) to have a combination of French and English spoken.
- 1 b) to have as much English as possible spoken.
- 3 c) to have only French spoken.

If I had the opportunity to speak French outside of school, I would:

- 1 a) never speak it.
- 3 b) speak French most of the time, using English only if really necessary.
- 2 c) speak it occasionally, using English whenever possible.

Compared to my other courses, I like French:

- 3 a) the most.
- 2 b) the same as all the others.
- 1 c) least of all.

If there were a French Club in my school, I would:

- 2 a) attend meetings once in awhile.
- 3 b) be most interested in joining.
- 1 c) definitely not join.

If it were up to me whether or not to take French, I:

- 3 a) would definitely take it.
- 1 b) would drop it.
- 2 c) don't know whether I would take it or not.

I find studying French:

- 1 a) not interesting at all.

- 2 b) no more interesting than most subjects.
- 3 c) very interesting.

If the opportunity arose and I knew enough French, I would watch French T.V. programmes:

- 2 a) sometimes.
- 3 b) as often as possible.
- 1 c) never

If I had the opportunity to see a French play, I would:

- 2 a) go only if I have nothing else to do.
- 3 b) definitely go.
- 1 c) not go.

If there were French-speaking families in my neighbourhood, I would:

- 1 a) never speak French to them.
- 2 b) speak French with them sometimes.
- 3 c) speak French with them as much as possible.

If I had the opportunity and knew enough French, I would read French magazines and newspapers:

- 3 a) as often as I could.
- 1 b) never.
- 2 c) not very often.

Orientation Index

I am studying French because:

- 1 a) I think it will some day be useful in getting a good job.
- 2 b) I think it will help me to better understand French people and way of life.
- 2 c) It will allow me to meet and converse with more and varied people.
- 1 d) A knowledge of two languages will make me a better educated person.

Appendix A.3
Semantic Differential Assessments of My French Teacher and My French Course
INSTRUCTIONS

The purpose of this part of the questionnaire is to determine your ideas and impressions about your French Course and your French Teacher. 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 checkmark as shown below:

friendly X : _____ : _____ : _____ : _____ : _____ : _____ unfriendly

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 would place your check-mark as follows:

dangerous _____ : X : _____ : _____ : _____ : _____ : _____ safe

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 check-mark as follows:

fast _____ : _____ : X : _____ : _____ : _____ : _____ slow

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 check-mark as follows:

useful _____ : _____ : _____ : X : _____ : _____ : _____ useless

If you rated the concept snake, your ratings may have been like the following:

SNAKE

friendly	_____	_____	_____	_____	_____	_____	_____	_____	unfriendly
dangerous	<u> X </u>	_____	_____	_____	_____	_____	_____	_____	safe
fast	_____	_____	_____	_____	<u> X </u>	_____	_____	_____	slow
useful	_____	_____	_____	_____	<u> X </u>	_____	_____	_____	useless

In this example, snake is seen as somewhat unfriendly, extremely dangerous, slightly slow, and neither useful nor useless. There are no right or wrong answers. We want you to indicate your own ideas and impressions. If you have any questions, please ask them now. In answering this part of the questionnaire, work quickly and don't stop to think about each scale. It is your immediate impressions in which we are interested.

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