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MOTIVATION, STRATEGY USE, AND PEDAGOGICAL PREFERENCES IN FOREIGN LANGUAGE LEARNING

Abstract

This chapter reports the results of a survey of motivation, reported use of language learning strategies, and learner preferences for various kinds of pedagogical activities carried out with 2,089 learners of five different foreign languages (Mandarin Chinese, Filipino [Tagalog], French, Japanese, and Spanish) at the University of Hawai'i. Questionnaire responses were factor analyzed, and a common factor structure was found for the sample as a whole, consisting of the factors of Value (a belief that studying the language is worthwhile for a wide variety of reasons), Expectancy (a combination of self-confidence, self-assessed aptitude for language learning, and lack of anxiety), Motivational Strength, Competitiveness, and Cooperativeness. The fact that many of these students are studying the language of their ethnic heritage also emerged as a distinct motivational factor. Scales based on the factor analyses were used to analyze similarities and differences among groups of students learning the different target languages, as well as relationships between the various components of motivation and those related to learning strategy use and pedagogical preferences. It was found that motivation does indeed affect strategy use and preferences for different types of classroom activities, but some associations are much stronger than others. The motivational factors of Value, Motivational Strength, and Cooperativeness affect strategy use and pedagogical preferences most strongly, while the Heritage Language factor appears to have little or no influence on these variables. Of the different types of learning strategies, the use of cognitive and metacognitive strategies is most affected by motivation, and among the types of pedagogical preferences that we investigated, approval of challenging activities was most affected by motivation.

INTRODUCTION

The research reported in this chapter attempts to be integrative, bringing together a number of interests within the field of foreign language learning and teaching that have usually been investigated independently: the structure of foreign language learning motivation in a university setting, the kinds of learning strategies that foreign language learners use, and the kinds of classroom structures and types of activities to which foreign language students react positively. The research was stimulated by both practical and theoretical concerns.

On the practical level, most teachers of second and foreign languages recognize the importance of student motivation, want to know more about it, and want to enhance their students' motivation in whatever ways are possible. In particular, they hope that curriculum development (including textbook selection) both fosters learning and appeals to students sufficiently. Other issues in the particular learning and teaching context investigated in this study may be unusual but are by no means unique among American universities. The University of Hawai'i is a large multi-campus university, of which the University of Hawai'i at Mānoa is the flagship campus. One of its major strengths is the diversity and depth of its language offerings. Over 30 languages are regularly offered, including not only the major European languages and the major East Asian ones (Chinese, Japanese, and Korean), but also a large number of languages that are offered at few other institutions in the United States, including Vietnamese, Indonesian, Thai, Filipino (Tagalog), Ilokano, and Khmer among the languages of Southeast Asia, and Hawaiian (an official language of the State of Hawai'i, together with English), Samoan, Tahitian, Maori, and Chomorro among the languages of the Pacific. The offering of these specific clusters of languages is unique to this university, as is the fact that the three "biggest" languages (in terms of student enrollment) are Hawaiian, Japanese, and Spanish (instead of the usual trio of French, German, and Spanish), but some of the issues are not. A striking characteristic of the student population is that about half of all students are studying the language of their ethnic heritage,¹ with this rising to close to 100% for some languages. This is true across the United States for the less commonly taught languages (normally defined as every language except French, German, and Spanish), and the only reason that most languages are taught at all in the U.S. is that there are students of those particular ethnicities anxious to study them. As described in other chapters of this volume (Kondo-Brown, Syed), the heritage factor is an extremely important source of language learning motivation, affecting both language choice and persistence in second language learning. A second salient issue at the University of Hawai'i during the time of this research, not uncommon at U.S. universities, was the existence of a graduation requirement of two years of study of Hawaiian or a foreign language for all undergraduates.

With respect to theoretical issues, the research-based literature on motivation for foreign language learning has concentrated almost exclusively on learning second and foreign languages in the more traditional sense, that is, learning a language associated with someone else's culture rather than one associated with your own or one that you claim as part of your ethnic background. Integrative motivation, for example, has been viewed as an interest and willingness to get to know about someone else's culture and to

¹ The term "heritage learner" has two definitions in current circulation. Some use it to refer to students who are studying their own first language in a school setting. Spanish classes for Spanish speakers fall within this definition. Others use the term more broadly, as we are using it here, to refer to members of ethnic groups who are studying that ethnic language. Some of the students we call heritage learners do speak that language as their mother tongue (with English as their second language), but many more in our sample are second, third, or fourth generation immigrants who in the Hawai'i context still colloquially refer to their "nationality" (i.e., ethnicity) as Japanese, Chinese, etc.

interact with members of that group, coupled with a willingness to learn a language to do so. However, the attitudes, orientations, and learning goals of heritage learners, who are learning a language of “inheritance” rather than “affiliation” in Rampton’s (1990) terms might be different.

A second theoretical issue concerns the components of motivation in tertiary foreign language education and how these relate to theoretical models in the field. The immediate precursor to this study was a study of foreign language learners of English in Egypt (Schmidt, Borjia, & Kassabgy, 1996) in which application of multidimensional scaling to responses to an extensive questionnaire found three basic dimensions to EFL motivation, labeled *Goal Orientation*, *Expectancy*, and *Affect*. *Goal Orientation* in that study incorporated items related to a number of different traditionally recognized components of motivation, including both instrumental and integrative orientations. For that population, it did not seem to matter whether learners held integrative or instrumental orientations towards English. What mattered was that some learners were highly oriented towards the goal of learning English for both types of reasons (and others besides), while others attributed little value of any kind to the study of English. The dimension of *Expectancy* also included a number of factors often considered conceptually distinct, including self-confidence, positive thinking, and determination. *Affect* was a dimension that included intrinsic motivation for language learning (enjoyment of the activity itself), anxiety (reverse correlated), and a liking for challenge.

The major theoretical motivation for this study, however, was not to examine motivation in isolation but to see what links could be discovered between motivation on the one hand and learning strategies on the other. Looking for links between motivation and learning strategies is motivated by a concern with how motivation works. Although some view motivation as part of a general “affective filter” (Krashen, 1985), which if high keeps target language input from reaching the language acquisition device and if low allows input to simply “go in,” we follow Gardner (1985, 1988) in believing that motivated learners achieve higher levels of proficiency because they put more of themselves into learning. Our basic assumption is that motivated learners learn more because they seek out input, interaction, and instruction, and when they encounter target language input they pay attention to it and actively process it however they can (Crookes & Schmidt, 1991; Schmidt, in press; Tremblay & Gardner, 1995). In other words, they use learning strategies.

Several previous studies have found links between motivation for language learning and reported strategy use. Oxford and Nyikos (1989) found that motivation was the best predictor of strategy use in a large-scale study of university students. More motivated students used learning strategies of all kinds more often than did less motivated students. In a study of 138 students in first year Italian and Spanish courses, MacIntyre and Noels (1996) found that three variables from the Gardner socio-educational model (Attitudes Toward the Learning Situation, Integrativeness, and Language Anxiety) correlated with three types of strategies: Cognitive, Metacognitive, and Social. A composite variable labeled *Motivation* correlated with the same three types of strategies, plus memory, compensation, and affective strategies. Schmidt et al. (1996) found that

Egyptian EFL learners with high Expectancy (determination), those with strong Instrumental Motivation, and those high in Sociability all reported using active cognitive strategies and organizing strategies. One recent study of learners of French (Gardner, Tremblay, & Masgoret, 1997) found somewhat more perplexing results. While motivation and the use of learning strategies were associated with each other, reported strategy use was not significantly correlated with L2 achievement, and a path analysis suggested that the use of strategies was related to lower levels of achievement. Gardner et al. (1997) suggest that since most of these learners had at least 9 years of prior study of French, successful learners may have adopted a fairly narrow range of effective strategies, while less successful learners may continue to attempt to use a broader range of strategies.

Links between motivation and students' attitudes towards different aspects of language pedagogy have been left largely unresearched. It seems intuitively likely that depending on one's motivation for learning a language one might prefer different types of pedagogical activities. For example, if one is integratively oriented towards language learning one might prefer communicatively oriented classes over traditional ones. Schmidt et al. (1996) reported that students who scored high on the affect dimension of motivation welcomed communicative classes while those low on that dimension tended to reject the communicative classroom and that determined learners preferred classes in which there was a balance among different skill emphases and between teacher control and learner centeredness. We are not aware of any other research that addresses possible links between motivational factors and how students react to specific aspects of foreign language pedagogy.

In light of these concerns, the objectives of the research reported here were to identify the combinations of factors (intrinsic/integrative/instrumental orientations, expectations, anxiety, perceived language aptitude, etc.) that define "motivation" for a university population with many heritage learners and to identify relationships among these motivational factors, reported use of language learning strategies, and preferences for particular types of classroom activities. Because of our desire to gather data from a reasonably large number of students studying a number of foreign languages, survey instruments were developed and used for the research.

METHOD

PARTICIPANTS

A total of 2,089 participants completed our survey questionnaire, representing students of five different foreign languages: Chinese (Mandarin), Filipino (Tagalog), French, Japanese, and Spanish. In each case, the survey instrument was distributed by instructors who were interested in the project and willing to give up some class time and was completed by students on a voluntary basis. Students were promised confidentiality and assured that their grades would not be affected in any way because of their participation or non-participation. Partly because not all instructors participated, and partly because enrollment in these languages varies greatly, there were larger numbers of responses from

students of Japanese and Spanish and fewer from Chinese and Filipino. Table 1 shows the distribution of participants by language and year of study at the university level.

Table 1: Number of subjects in each language sample

language	language/level	n	total
European	Spanish, 1 st year	326	828
	Spanish, 2 nd year	315	
	French, 1 st year	187	
Japanese	1 st year	466	1029
	2 nd year	394	
	beyond	169	
Filipino	1 st year	69	114
	2 nd year	45	
Chinese	1 st year	45	118
	2 nd year	60	
	beyond	13	
			2089

Additional demographic data were gathered concerning these participants but are not being reported here because each participating language department collected different kinds of data as part of the survey. Some requested information concerning student ethnicity and some did not; some wanted to know if the language being studied was spoken by anyone in the student's immediate family and some did not; some wanted details on learning at the primary and secondary levels and some did not.

INSTRUMENTS

In a study carried out in Egypt by Schmidt et al. (1996), data were collected from 1,464 adult learners of EFL using a 97-item questionnaire that asked about the students' motivation, learning strategies, and preferences for classroom instructional activities. That instrument was used as the basis for the one used in this study, with some significant modifications. Items clearly relevant to Egyptian learners of English but not to American learners of other foreign languages were eliminated and additional items were added based on discussions with foreign language teachers at the University of Hawai'i concerning what they thought were the primary issues concerning the motivation of their students. This resulted in a 123-item questionnaire with questions on motivation, preferences for instructional activities, and learning strategies. The questions concerning motivation were grouped into 11 subcategories, with different scales addressing such aspects of motivation as intrinsic motivation, integrative

orientation, anxiety, and perceived language aptitude. The questions in the second two parts were not initially grouped into subcategories.

In the first administration, the questionnaire was administered to students in first and second year Spanish and French courses. After correlational analyses and factor analyses were carried out, 22 items were judged to be ineffective and were removed from the questionnaire. After these analyses, the items concerning motivation were reorganized into separate scales and the questions concerning learning strategies and pedagogical preferences were also grouped into subcategories. In the next administration, the revised 101-item questionnaire was administered to students in all levels of Japanese courses and to students in first semester and third semester Filipino courses. Again, correlational analyses and factor analyses were conducted and 10 items were judged to be ineffective and removed. In the final administration, the revised 91-item questionnaire was administered to 118 second semester, fourth semester, and third year students of Mandarin Chinese. To enable comparisons of the data from different administrations, all the analyses to be reported here are based on the final version of the questionnaire, which consists of 91 items in three parts: Part A, Motivation, 47 items; Part B, Preferences for Instructional Activities, 20 items; and Part C, Learning Strategies, 24 items.

Part A contains a single item concerning the language requirement (“I mainly study this language to satisfy the university language requirement”) and questions grouped into 12 scales. For each item participants were asked to indicate their degree of agreement with the statement on a five point scale (1=*strongly disagree*, 2=*disagree*, 3=*neutral or no opinion*, 4=*agree*, 5=*strongly agree*):

- *Intrinsic motivation*, statements expressing enjoyment of language learning
- *Instrumental orientation*, statements concerning the financial, social, or other benefits of learning a language
- *Integrative orientation*, statements about being able to interact with members of another cultural group
- *Heritage language orientation*, statements concerning the students’ attachment to the language as part of their own identity and cultural heritage
- *Interest in foreign languages and cultures*, in general (not a specific language)
- *Task value*, that is, the value of the language course
- *Expectancy*, statements concerning a student’s belief that s/he will do well and receive a good grade in the course
- *Anxiety*, statements concerning test and speaking anxiety
- *Language aptitude*, the student’s own perception of her/his aptitude for grammar, pronunciation, and so forth
- *Competitiveness*, statements about doing better than other students and getting good grades

- *Cooperativeness*, statements concerning relationships with other students and the teacher and learning in a cooperative environment
- *Motivational strength*, statements concerning one's intention to put one's best effort into learning the language, keep up with the course, etc.

Part B contains 20 items related to the pedagogical preferences of language learners, also rated using a 5-point scale from *strongly disagree* to *strongly agree*, grouped into five categories (to be discussed in the results section). Part C contains 24 items concerning the use of learning strategies, also rated on a 5-point scale, grouped into four categories (to be discussed under results). The questionnaire items appear in Appendix A, together with the names of the scales to which they belong and brief labels used for easy reference in the tables that follow.

Data were collected by the teachers of the many different language course sections that participated in this study over a period of 2 years, for one target language group at a time, always between the second and fourth weeks of a given 14 week semester, that is, after class procedures had been established and students were beginning to get to know one another but before pressures started building in preparation for mid-term examinations. The data were machine scored, and negatively worded items were re-coded positively by the two authors of this paper. Factor analyses, correlational analyses, and ANOVAs were performed using SAS 6.11 (1989). and StatView 4.5 (1994). in order to address the research questions.

RESULTS

DIMENSIONS IN THE DATA

Responses to each of the three parts of the questionnaire were factor analyzed to determine relevant dimensions in the data. Because factor analysis requires a large sample size, the data from French and Spanish classes were combined into a category of European languages ($n=828$). The data from students of Japanese ($n=1029$) were factor analyzed separately. Factor analysis was not conducted with the data from students of Chinese or Filipino because of their relatively small sample size ($n=114$ and $n=118$ respectively). Instead a final factor analysis on the data from all five language groups ($n=2089$) was conducted. All the factor analyses described below were based on a common factor analysis called Iterated Principle Factor Analysis used in SAS (version 6.11) with varimax rotation. Common factor analysis, unlike principal component analysis, uses only the common variance between items. It excludes the variance that is unique to each item, or error variance. Common factor analysis was used because we were interested in finding or validating psychological traits that are manifested in multiple items in our questionnaire. Both oblique rotations (by promax) and orthogonal rotations (by varimax) were carried out. Oblique rotations allow correlation between factors, which usually produces more easily interpretable results, a "simple structure." However, orthogonal rotations have an advantage of obtaining "clean" factors uncontaminated by the overlap between factors. Since the results were

practically identical between the two rotation methods in terms of extracted factors, results from varimax rotations will be reported. The number of factors was determined by the eigenvalue (minimum of one), the scree plot, and the interpretability of rotated factors.

In order for the dimensions in the data (i.e., categories) to be deemed valid, they need to demonstrate certain properties:

- *Convergent validity.* All the items in each category need to measure one and the same construct. Therefore, the category needs to be internally consistent. We can check this by Cronbach alpha, which is a way of measuring the correlations between items.
- *Divergent validity.* Each category needs to be distinct from other categories. Categories need to be distinct enough from each other to be called separate categories. Factor analysis addresses this problem.
- *Content validity.* Meeting the above criteria by statistical analysis is not enough. The naming of each category depends on judgments as to what it represents. Item selection and writing need to be based on theory. This is also necessary to obtain categories that are more likely to meet the criteria of convergent and divergent validity.

The selection of items and preliminary categories for Part A, Motivation, were based on relevant theories and past research findings, addressing the content validity criterion. The results of factor analyses and reliability estimates determine the extent to which the questionnaire satisfies the requirements of convergent validity and divergent validity. For Part A, factor solutions were very similar across European, Japanese, and the combined data sets. Tables 2, 3 and 4 summarize factor solutions obtained and the total variance accounted for. In each case, two solutions are presented with different numbers of factors specified. The number of subjects indicated are those remaining after list-wise deletions for missing data.

Table 2: Factors for Part A – European languages (N=790)

number of factors=6 (total variance accounted for=41%)	number of factors=5 (total variance accounted for=39%)
f1. Value components	f1. Value components
f2. Expectancy, Anxiety	f2. Expectancy components
f3. Motivational strength	f3. Motivational strength
f4. Aptitude, Competitiveness	f4. Competitiveness
f5. Heritage	f5. Heritage
f6. Cooperativeness	

Table 3: Factors for Part A – Japanese (N=1,007)

number of factors=7 (total variance accounted for=40%)	number of factors=5 (total variance accounted for=37%)
f1. Value components	f1. Value components
f2. Expectancy, Anxiety	f2. Expectancy, Anxiety, (Aptitude)
f3. Aptitude	f3. Motivational strength, Cooperativeness
f4. Motivational strength	f4. Competitiveness, (Aptitude)
f5. Competitiveness	f5. Heritage
f6. Heritage	
f7. Cooperativeness	

Table 4: Factors for Part A – All language groups (N=2,023)

number of factors=7 (total variance accounted for=41%)	number of factors=5 (total variance accounted for=38%)
f1. Value components	f1. Value components
f2. Anxiety	f2. Expectancy components
f3. Expectancy, Aptitude	f3. Motivational strength
f4. Motivational strength	f4. Competitiveness
f5. Heritage	f5. Heritage
f6. Competitiveness	
f7. Cooperativeness	

Table 5 shows the factor solution for the entire sample when five factors are specified for motivation. The most striking fact about Table 5 is that a large number of items that are conceptually rather different (such as instrumental orientation and integrative orientation) do not constitute separate factors but emerge as part of a single factor which we have labeled *Value*. A total of 20 questionnaire items load on this factor, including all items from our scales for intrinsic motivation, instrumental orientation, integrative orientation, task value, and interest in foreign languages and cultures. That is, it is not the case that some of the learners in our sample are instrumentally oriented towards language study while others are integratively oriented, others have a general interest in

languages and cultures, and yet others just enjoy language learning. Instead, we find that our learners either see value in learning the foreign language they are studying for all of those reasons or for none of them.

Table 5: Factor solution for Part A — All language groups (N=2,023)

	f1	f2	f3	f4	f5
	Value	Expectancy	Mot str	Competitive	Heritage
intrinsic 1	68*	31	25	8	11
intrinsic 1	58*	36	34	6	3
intrinsic 3	46*	20	19	3	4
intrinsic 4	55*	19	14	18	9
intrinsic 5	63*	37	17	1	3
intrinsic 6	73*	21	10	-10	14
lang req	-68*	-23	-6	16	-13
instrumental 1	43*	2	2	30	12
instrumental 2	49*	-3	8	14	10
instrumental 3	49*	6	-3	14	21
integrative 1	70*	6	13	12	13
integrative 2	57*	9	2	18	24
integrative 3	58*	5	9	14	19
interest 1	57*	15	5	9	-9
interest 2	36	5	17	9	-13
interest 3	69*	17	13	2	4
interest 4	62*	5	17	18	0
task value 1	59*	26	30	3	5
task value 2	46*	2	48*	6	2
task value 3	54*	10	8	8	-4
heritage 1	20	-5	10	2	82*
heritage 2	38	6	10	14	74*
expectancy 1	24	53*	16	20	2
expectancy 2	8	59*	20	29	-1
expectancy 3	2	72*	-7	-1	2
anxiety 1	-14	-45*	-2	-1	-2
anxiety 2	-6	-64*	-15	8	1
anxiety 3	-8	-63*	5	7	0
anxiety 4	-11	-44*	-1	-2	-8
anxiety 5	-8	-47*	-3	15	6
anxiety 6	-15	-56*	-3	2	6
aptitude 1	18	37	6	24	8
aptitude 2	11	39	0	29	-8
aptitude 3	7	40*	3	21	-6

aptitude 4	27	46*	10	32	2
compete 1	-1	-19	30	38	6
compete 2	32	6	3	43*	11
compete 3	7	21	-6	42*	4
compete 4	10	10	19	45*	0
cooperate 1	17	-1	29	11	-1
cooperate 2	15	-15	25	32	-4
cooperate 3	16	-5	24	20	6
motiv'l str 1	28	21	43*	-12	6
motiv'l str 2	0	-7	52*	7	2
motiv'l str 3	15	29	40*	-7	-2
motiv'l str 4	4	14	54*	11	4
motiv'l str 5	29	24	58*	10	12

note: Lines denote divisions between major categories. Values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.4 have been flagged by an "*".
Variance explained by each factor:

factor1	factor2	factor3	factor4	factor5
7.507308	4.567245	2.419648	1.721466	1.558590

A factor labeled Value shows up in each of the analyses shown in tables 3, 4, and 5, and the specific items that load on this factor are stable across all the analyses. The same is true of Factor 5, which we have labeled the *Heritage* factor and which consists of only the two items on our heritage language learning scale. That is, although an integrative orientation towards a language associated with another social group and culture did not emerge as a distinct motivational factor for this population, an orientation towards learning the language of one's own cultural heritage did. In each analysis, factors that we have labeled *Expectancy*, *Motivational Strength*, and *Competitiveness* also emerged, but there are some differences in which items load on these factors, depending on the target language sample and how many factors are specified for a solution. For example, items concerning anxiety appear to constitute a separate factor if a seven factor solution is chosen for the whole sample, but items related to anxiety load (negatively) on the Expectancy factor in all other solutions. A separate factor of *Cooperativeness* was formed only when the number of factors was specified as seven (for Japanese and all languages combined) or six (for pooled French and Spanish data).

For Part B (pedagogical preferences), unlike for Part A, no predetermined categories were established, and all of the categories were derived from factor analysis. Factor solutions were almost identical across the three data sets, as shown in tables 6, 7, and 8. Table 9 shows the factor solution for the entire sample when five factors are specified for pedagogical preferences.

Table 6: Part B – All language groups (N=2023)

number of factors=5
(total variance accounted for=40%)

- f1. Practical
- f2. Cooperative
- f3. Challenging
- f4. Traditional
- f5. Innovative

Table 7: Part B – Japanese (N=1007)

number of factors=5
(total variance accounted for=41%)

- f1. Practical
- f2. Cooperative
- f3. Challenging
- f4. Traditional
- f5. Innovative

Table 8: Part B – European (N=790)

number of factors=5
(total variance accounted for=40%)

- f1. Practical
- f2. Challenging
- f3. Cooperative
- f4. Innovative
- f5. Traditional

Table 9: Factor solution for Part B — All language groups (N=2023)

	f1	f2	f3	f4	f5
	Practical	Cooperative	Challenge	Innovative	Traditional
grammar	23	6	16	9	69*
read/write	26	6	7	16	52*
vocabulary	43*	4	7	12	38
relevant	39	7	-2	30	22
ask Q's	58*	15	10	5	13
pronunciation	37	2	22	25	21
listen/speak	53*	6	38	21	16
communicate	59*	12	22	21	14
feedback	64*	12	1	5	16
everyday lg	51*	9	-2	22	9
no English	-7	-14	41*	19	12

challenge	23	6	46*	32	26
active partic	21	39	48*	27	1
must speak	12	14	67*	-8	2
pairs/group	13	72*	-3	15	10
not alone	6	73*	12	-7	-1
cohesiveness	26	44*	1	32	8
culture	11	11	7	49*	13
goal-setting	22	2	3	35	3
authentic	10	3	17	53*	8

note: Lines denote divisions between major categories. Values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.4 have been flagged by an “*”. Variance explained by each factor:

factor1	factor2	factor3	factor4	factor5
2.489048	1.532095	1.392704	1.326841	1.194866

Five factors related to learner preferences for different aspects of foreign language pedagogy were extracted. The largest number of our questionnaire items load on Factor 1, which we have labeled a *Practical* approach because of the focus in these items on everyday, communicatively relevant language, feedback from the teacher, and the belief that students should ask questions when they do not understand something. Factor 2 consists of three items concerning group and pair work, not working alone, and a desire for cohesiveness in the language class. We have labeled this a preference for *Cooperative Learning*. Factor 3 clearly represents the dimension of *Challenge* and has been so labeled. Factors 4 and 5 are somewhat harder to label. Factor 4 consists of only three items, a focus on culture in the language classroom, the use of authentic materials, and an endorsement of goal-setting by language learners. We have labeled this *Innovative* for lack of a better term. Factor 5, which we have labeled *Traditional*, is made up of two core items concerning a focus on grammar and reading and writing. However, in the Japanese data the item concerning vocabulary also loaded on this factor, while in the data from learners of European languages this item loaded most highly on Factor 1, while also loading relatively highly on Factor 5. This makes some sense in terms of what vocabulary learning likely means for students of these languages. For Americans learning a European language that uses the same script as English, learning new vocabulary means primarily matching new phonological forms with familiar meanings and is likely to be viewed primarily as an important factor in becoming communicatively competent. For Americans learning Japanese, however, learning vocabulary is often viewed primarily as a matter of learning new kanji (Chinese characters used in written Japanese) and would therefore be associated with reading and writing and other aspects of traditional pedagogy. In the end, we decided to retain this item within our measure of a preference for a traditional approach, mainly to increase the number of items in this category and thereby increase its internal consistency.

For Part C (learning strategies), all the categories were also derived from factor analysis. The factor solutions were very similar across the three data sets. Tables 10, 11, and 12 summarize the factor solutions obtained for three different samples and the total

variance accounted for. Table 13 presents a factor solution for the combined data, specifying four factors.

Table 10: Part C – All language groups (N=2023)

number of factors=4
(total variance accounted for=31%)

f1. Study skills
f2. Cognitive
f3. Coping
f4. Social

Table 11: Part C – Japanese (N=1007)

number of factors=4
(total variance accounted for=31%)

f1. Study skills
f2. Coping
f3. Cognitive
f4. Social

Table 12: Part C – European (N=790)

number of factors=4
(total variance accounted for=33%)

f1. Study skills
f2. Cognitive
f3. Social
f4. Coping

Table 13: Factor solution for Part C — All language groups (N=2023)

	f1	f2	f3	f4
	Study skills	Cognitive	Coping	Social
relate vocab	20	50*	20	3
compare lgs	-2	51*	5	6
guess meaning	3	50*	-1	4
patterns	20	53*	9	-5
evaluate progress	33	35	23	4
preview	24	32	23	12
clarification	21	35	16	14
work with others	15	8	8	70*
classmates	11	10	10	72*
ask other's help	2	0	24	61*
organize study	39	20	31	18
review after test	38	22	22	11
place for study	33	18	17	3
time to prepare	47*	20	18	6
re-read materials	38	14	34	4
review early	74*	4	10	11
not last minute	72*	-10	-13	3
periodic study	41*	17	5	5
repeat words	23	27	34	6
find gaps	17	20	47*	14
see words first	4	12	35	10
look words up	30	19	31	2
try to keep up	13	-2	41*	7
what's on test?	-4	-8	45*	8

note: Lines denote divisions between major categories. Values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.4 have been flagged by an “*”. Variance explained by each factor:

factor1	factor2	factor3	factor4
2.521515	1.807837	1.538342	1.533918

As can be seen from Table 13, of the factors extracted for learning strategies, some are more easily interpretable than others. Factor 4, with high loadings from just three questionnaire items concerning working with others and seeking help from classmates, clearly represents social learning strategies. Factor 1, which we have labeled *Study Skills*, includes a coherent set of items concerning the methodical allocation of resources to getting the job of studying a language accomplished. We have labeled Factor 2 *Cognitive*, although we note that some of the items loading on this factor would be considered metacognitive strategies in a theoretically oriented scheme. Factor 3 is hardest to interpret, since some items loading on it do so weakly, but the high loading of items such as wanting to know what is on an upcoming test and trying to keep up with the course suggests that these are coping strategies.

INTERNAL CONSISTENCY

Internal consistency estimates, by Cronbach's coefficient alpha, of the three parts and of categories within each part for four language samples are reported in Table 14. Coefficient alpha ranged from .92 to .88 for Part A (47 items), from .84 to .81 for Part B (22 items), and from .83 to .79 for Part C (24 items). These estimates are acceptably high. However, coefficient alpha for categories and subcategories within each part varied greatly. Generally, the more items a category contains, the higher the reliability estimate was. This was true for value components (22 items, coefficient alpha=.93 to .86) and for expectancy components (13 items, coefficient alpha=.86 to .84) on one end, as well as for competitiveness (4 items, alpha=.55 to.39) and cooperativeness (3 items, alpha=.51 to .35) on the other. This is not surprising since internal consistency estimate is a function of the number of items and inter-correlations within a category. The more items a category contains and the more they are correlated with each other, the internal consistency estimate goes up. Due to the small number of items, the internal consistency estimates for some categories are only marginally acceptable.

Table 14: Cronbach's coefficient alpha reliability estimates

categories	# of items	Japanese	European	Filipino	Chinese
Part A	47	.91	.92	.88	.91
Value components	22	.91	.93	.86	.90
Intrinsic motivation	6	.84	.86	.74	.80
Instrumental orientation	3	.42	.64	.44	.51
Integrative orientation	3	.69	.73	.64	.68
Interest	4	.69	.71	.57	.69
Task value	3	.59	.64	.50	.68
Expectancy components	13	.84	.84	.86	.84
Expectancy	3	.69	.66	.66	.73
Anxiety	6	.76	.73	.76	.75
Perceived aptitude	4	.67	.64	.57	.64
Heritage language	2	.80	.78	.72	.79
Motivational strength	5	.65	.74	.44	.64
Competitiveness	4	.54	.55	.39	.42
Cooperativeness	3	.50	.51	.36	.35
Part B	20	.82	.83	.81	.84
Traditional approach	5	.65	.64	.70	.73
Practical proficiency orientation	7	.77	.78	.66	.84
Challenging approaches	4	.63	.62	.49	.51
Cooperative learning	3	.70	.65	.69	.53
Innovative approaches	3	.49	.53	.38	.38

Part C	24	.82	.83	.80	.79
Cognitive strategies	7	.69	.69	.63	.60
Social strategies	3	.73	.73	.72	.71
Study skills	8	.75	.74	.62	.72
Coping strategies	6	.52	.64	.50	.63

Overall, this questionnaire, with only 91 items, attempts to tap into three different aspects of individual differences among foreign language learners: motivation, preferences for instructional activities, and strategy use. Considering the small number of items, particularly within categories in each of the three parts, this instrument seems to serve its purpose fairly well. Factor analyses and internal consistency estimates indicate that the following categories meet the divergent and convergent validity criteria: for Part A—Value, Expectancy, Heritage Language, Motivational Strength, Competitiveness, and Cooperativeness; for Part B—Traditional Approach, Practical Proficiency Orientation, Challenging Approaches, Cooperative Learning, and Innovative Approaches; and for Part C—Cognitive Strategies, Social Strategies, Study Skills Strategies, and Coping Strategies. In order to be able to use these factors in further analyses, we have computed composite scores for each them, by summing the scores of the items loading on each factor. In the case of the expectancy scale, the scores for anxiety items were reversed to indicate a lack of anxiety. In addition, we include in our following analyses the responses to the single item concerning the subjective importance of the language requirement, since this is of interest to the participants and their instructors. Appendix B lists the scales and the items that have been summed to arrive at a scores for further analysis.

COMPARISONS AMONG STUDENTS STUDYING DIFFERENT LANGUAGES

Although not the major focus of this study, one question of interest is whether students studying different languages in a single institution are all more or less alike or whether the students of each language present a particular motivational profile. We also wondered whether students studying different languages might use different learning strategies or have preferences for different styles of foreign language pedagogy. It is often argued by foreign language teachers that learning their particular language requires a specific pedagogical approach or even that specific strategies may be especially useful for specific languages. To cite only one example, teachers of Japanese and Chinese as foreign languages often argue that because of the importance of learning large numbers of characters (kanji) for these languages, memorization strategies are crucial. The question we are asking here is whether students of these languages subscribe to similar beliefs or modify their strategies and preferences depending on the language they are learning.

Tables 15–18 display the results of each of the target language groups on each of these variables. In each case, an ANOVA procedure was used to determine whether there are statistically significant differences among the groups, followed by a post-hoc comparison of means (using the Scheffé test) to identify precisely where the differences

lie. Because of the large number of statistical tests reported in this and the following sections, alpha was set at .001.

Table 15 shows the results of the analysis of variance on the scores on parts A (motivation), B (pedagogical preferences), and C (learning strategies) by target language group. As can be seen in the table, there are group differences on each of these measures, but Scheffé's test indicates that only a few of the pair-wise differences in means are significant. Learners of Spanish in our sample are, on the whole, less motivated than the learners of Chinese, Japanese, or Filipino. The students of Filipino have, overall, a higher level of appreciation for all aspects of language pedagogy than students of either French or Spanish, and Japanese learners also have a higher level of appreciation of pedagogical techniques (in general) than the learners of Spanish. Learners of Filipino report the highest use of strategies (all types combined) and their means on this part of our instrument are significantly higher than those of the learners of both Chinese and Japanese.

Table 15: Analysis of variance of scores on Parts A, B, and C by target language group

	French		Spanish		Japanese		Chinese		Filipino		F-value	p-value
	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD		
Part A	3.300	.530	3.181	.503	3.421	.469	3.494	.456	3.538	.425	32.783	<.0001
Part B	3.773	.479	3.762	.401	3.884	.395	3.884	.437	3.989	.404	14.119	<.0001
Part C	3.526	.442	3.562	.419	3.532	.430	3.386	.400	3.716	.405	9.162	<.0001

Scheffé for Part A
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.044	.273	.9750	
Chinese, French	.194	.244	.0201	
Chinese, Japanese	.073	.202	.6628	
Chinese, Spanish	.313	.208	<.0001	S
Filipino, French	.238	.247	.0018	
Filipino, Japanese	.117	.205	.1991	
Filipino, Spanish	.357	.211	<.0001	S
French, Japanese	-.121	.165	.0410	
French, Spanish	.119	.173	.0650	
Japanese, Spanish	.241	.105	<.0001	S

Scheffé for Part B
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.105	.231	.4257	
Chinese, French	.110	.207	.2594	
Chinese, Japanese	.000	.171	>.9999	
Chinese, Spanish	.122	.176	.0650	
Filipino, French	.216	.209	.0006	S
Filipino, Japanese	.105	.173	.1446	
Filipino, Spanish	.227	.179	<.0001	S
French, Japanese	-.110	.140	.0214	
French, Spanish	.011	.146	.9984	
Japanese, Spanish	.122	.089	<.0001	S

Scheffé for Part C
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.330	.242	<.0001	S
Chinese, French	-.140	.219	.1076	
Chinese, Japanese	-.147	.180	.0154	
Chinese, Spanish	-.177	.187	.0024	
Filipino, French	.190	.220	.0080	
Filipino, Japanese	.184	.181	.0008	S
Filipino, Spanish	.154	.188	.0147	
French, Japanese	-.006	.149	.9999	
French, Spanish	-.036	.157	.9094	
Japanese, Spanish	-.030	.095	.7612	

Table 16 shows the ANOVA results on motivational scales by target language group and identifies both similarities and differences. Within each of the five target language groups, these university students agree most with statements suggesting a social, cooperative motivation and least with the statements on our Competitive scale, including a concern for grades, perhaps indicating the effect of a social desirability factor. As for the differences, the results for a number of these variables tend to break our students into two groups: learners of French and Spanish in one group; learners of Chinese, Japanese, and Filipino in the other. As can be seen, this is not only a contrast between European and Asian languages, but (in this context) between non-heritage and heritage languages. As shown by results of the Scheffé test for the Heritage scale, the group means are significantly different for all pairs of languages represented in our sample except for the comparison between French and Spanish (neither of which is a heritage language for very many of these students) and the comparisons among Chinese,

Filipino, and Japanese (all of which are heritage languages for large numbers of students). Besides being a non-heritage language for most students, Spanish occupies a distinctive position among these five target languages in several ways. The students in this sample who are studying Spanish are least likely to see the value of studying the language (a composite variable on which learners of Spanish report agreement at significantly lower levels than learners of each of the other four languages) and are significantly more likely than learners of any of the other languages to agree with the statement “I mainly study this language to satisfy the university language requirement.”

Table 16: Analysis of variance of scores on motivation scales by target language group

	French		Spanish		Japanese		Chinese		Filipino		F-value	p-value
	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD		
value	3.366	.757	3.124	.725	3.554	.632	3.645	.604	3.619	.537	47.973	<.0001
heritage	2.329	.960	2.178	.919	3.041	1.024	3.258	.976	3.636	.893	117.533	<.0001
expt	3.315	.681	3.179	.666	3.126	.678	3.384	.699	3.245	.755	6.343	<.0001
mot str	3.406	.762	3.447	.717	3.685	.622	3.429	.672	3.649	.551	17.710	<.0001
compet	2.950	.796	2.948	.745	3.044	.739	3.048	.639	3.126	.762	2.725	ns
coop	3.756	.654	3.790	.617	3.747	.639	3.554	.645	4.018	.605	8.436	<.0001
req	3.091	1.451	3.736	1.246	2.657	1.339	2.496	1.277	3.044	1.379	71.051	<.0001

Scheffé for Value scale
effect: LANGUAGE
significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	.026	.378	.9990	
Chinese, French	.279	.338	.0133	
Chinese, Japanese	.091	.279	.7419	
Chinese, Spanish	.521	.288	<.0001	S
Filipino, French	.253	.342	.0378	
Filipino, Japanese	.065	.284	.9143	
Filipino, Spanish	.495	.292	<.0001	S
French, Japanese	-.188	.229	.0137	
French, Spanish	.242	.239	.0008	S
Japanese, Spanish	.430	.145	<.0001	S

Scheffé for Heritage scale
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.377	.553	.0710	
Chinese, French	.930	.495	<.0001	S
Chinese, Japanese	.218	.409	.2633	
Chinese, Spanish	1.080	.422	<.0001	S
Filipino, French	1.307	.500	<.0001	S
Filipino, Japanese	.595	.416	<.0001	S
Filipino, Spanish	1.458	.428	<.0001	S
French, Japanese	-.712	.335	<.0001	S
French, Spanish	.151	.350	.4871	
Japanese, Spanish	.863	.212	<.0001	S

Scheffé for Expectancy scale
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value
Chinese, Filipino	.139	.385	.6600
Chinese, French	.069	.344	.9467
Chinese, Japanese	.257	.285	.0045
Chinese, Spanish	.205	.293	.0607
Filipino, French	-.070	.348	.9445
Filipino, Japanese	.118	.289	.5394
Filipino, Spanish	.066	.298	.9231
French, Japanese	.189	.233	.0163
French, Spanish	.136	.243	.2151
Japanese, Spanish	-.053	.147	.6714

Scheffé for Motivational Strength
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.220	.376	.1743	
Chinese, French	.022	.337	.9992	
Chinese, Japanese	-.256	.278	.0036	
Chinese, Spanish	-.018	.287	.9994	
Filipino, French	.243	.340	.0516	
Filipino, Japanese	-.036	.283	.9902	
Filipino, Spanish	.202	.291	.0627	
French, Japanese	-.278	.228	<.0001	S
French, Spanish	-.040	.238	.9701	
Japanese, Spanish	.238	.144	<.0001	S

Scheffé for Competiveness
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value
Chinese, Filipino	-.078	.420	.9590
Chinese, French	.098	.376	.8681
Chinese, Japanese	.004	.311	>.9999
Chinese, Spanish	.100	.320	.7705
Filipino, French	.176	.380	.4107
Filipino, Japanese	.082	.315	.8692
Filipino, Spanish	.178	.325	.2356
French, Japanese	-.094	.254	.6412
French, Spanish	.002	.266	>.9999
Japanese, Spanish	.096	.161	.1607

Scheffé for Cooperativeness
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.464	.355	<.0001	S
Chinese, French	-.202	.318	.1120	
Chinese, Japanese	-.193	.263	.0403	
Chinese, Spanish	-.236	.271	.0071	
Filipino, French	.262	.321	.0153	
Filipino, Japanese	.271	.267	.0008	S
Filipino, Spanish	.228	.275	.0129	
French, Japanese	.009	.215	.9999	
French, Spanish	-.034	.225	.9801	
Japanese, Spanish	-.043	.136	.7615	

Scheffé for Language Requirement
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.548	.748	.0416	
Chinese, French	-.596	.671	.0057	
Chinese, Japanese	-.162	.555	.8139	
Chinese, Spanish	-1.240	.572	<.0001	S
Filipino, French	-.048	.676	.9990	
Filipino, Japanese	.387	.561	.0668	
Filipino, Spanish	-.692	.578	<.0001	S
French, Japanese	.434	.453	.0020	
French, Spanish	-.645	.474	<.0001	S
Japanese, Spanish	-1.079	.286	<.0001	S

Students of Filipino agree most enthusiastically with the items contained in our motivational scale of Cooperativeness; the differences between students of Filipino and students of Chinese and Japanese are highly significant and the differences when compared to students of French and Spanish almost reach criterion. Learners of Japanese, on the other hand, are characterized by having high motivational strength (significantly higher than learners of French and Spanish), coupled with relatively low expectations of success (although none of the pair-wise comparisons on this scale reach the .001 level of confidence).

Table 17: Analysis of variance of scores on pedagogy scales by target language group

French	Spanish	Japanese	Chinese	Filipino
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	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	F-value	p-value
traditional	3.868	.704	3.886	.643	4.070	.589	4.124	.596	4.102	.674	12.656	<.0001
practical	4.146	.585	4.145	.468	4.217	.464	4.220	.560	4.296	.432	4.055	ns
challenge	3.335	.723	3.141	.664	3.350	.677	3.444	.660	3.428	.668	12.631	<.0001
cooperative	3.604	.781	3.785	.724	3.864	.700	3.649	.674	4.061	.732	10.487	<.0001
innovative	3.561	.638	3.549	.626	3.650	.583	3.681	.607	3.836	.573	7.224	<.0001

Scheffé for Traditional
effect: LANGUAGE
significance level: .1%

	mean diff.	crit. diff.	p-value
Chinese, Filipino	.022	.352	.9994
Chinese, French	.256	.315	.0156
Chinese, Japanese	.054	.260	.9387
Chinese, Spanish	.238	.268	.0058
Filipino, French	.234	.318	.0400
Filipino, Japanese	.032	.264	.9915
Filipino, Spanish	.216	.272	.0202
French, Japanese	-.202	.213	.0022
French, Spanish	-.018	.223	.9982
Japanese, Spanish	.184	.135	<.0001

Scheffé for Practical Proficiency
effect: LANGUAGE
significance level: .1%

	mean diff.	crit. diff.	p-value
Chinese, Filipino	-.076	.272	.8388
Chinese, French	.074	.244	.7869
Chinese, Japanese	.004	.201	>.9999
Chinese, Spanish	.075	.208	.6547
Filipino, French	.150	.246	.1437
Filipino, Japanese	.079	.205	.5955
Filipino, Spanish	.151	.211	.0497
French, Japanese	-.071	.165	.4923
French, Spanish	.001	.172	>.9999
Japanese, Spanish	.072	.105	.0680

Scheffé for Challenge
effect: LANGUAGE
significance level: .1%

	mean diff.	crit. diff.	p-value
Chinese, Filipino	.017	.383	.9998

Chinese, French	.109	.343	.7575	
Chinese, Japanese	.094	.284	.7280	
Chinese, Spanish	.303	.293	.0005	S
Filipino, French	.093	.346	.8569	
Filipino, Japanese	.077	.287	.8533	
Filipino, Spanish	.287	.296	.0017	
French, Japanese	-.015	.231	.9992	
French, Spanish	.194	.242	.0183	
Japanese, Spanish	.209	.147	<.0001	S

Scheffé for Cooperative Learning
effect: LANGUAGE
significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.412	.407	.0008	S
Chinese, French	.045	.365	.9909	
Chinese, Japanese	-.215	.303	.0533	
Chinese, Spanish	-.136	.312	.4790	
Filipino, French	.457	.366	<.0001	S
Filipino, Japanese	.197	.304	.1000	
Filipino, Spanish	.277	.313	.0061	
French, Japanese	-.260	.245	.0003	S
French, Spanish	-.181	.256	.0568	
Japanese, Spanish	.080	.156	.3049	

Scheffé for Innovative
effect: LANGUAGE
significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.155	.341	.4284	
Chinese, French	.119	.306	.5871	
Chinese, Japanese	.031	.253	.9912	
Chinese, Spanish	.132	.261	.3165	
Filipino, French	.275	.308	.0054	
Filipino, Japanese	.186	.256	.0440	
Filipino, Spanish	.287	.264	.0002	S
French, Japanese	-.088	.206	.4915	
French, Spanish	.012	.216	.9995	
Japanese, Spanish	.101	.131	.0270	

As shown in Table 17, students studying all five languages reserve their highest agreement for aspects of foreign language pedagogy related to a practical proficiency approach, approve next most highly of a traditional approach, and are least likely to agree with statements concerning active participation and a desire to be challenged. There are also significant differences by target language group for all of the scales except Practical Proficiency, although only a few of the pair-wise comparisons using the Scheffé test produce statistically significant results. Learners of Japanese have significantly higher appreciation for the traditional approach (emphasis on grammar, vocabulary, reading, and writing) than do learners of Spanish. Learners of Spanish, while agreeing that practical proficiency should be the goal of pedagogy, do not agree strongly with the statements in our Challenge scale and are significantly different from learners of Chinese and Japanese in that regard. Learners of Filipino are significantly more likely than learners of Spanish to approve of innovative approaches (i.e., authentic materials, learner goal-setting, and a focus on culture) and score highest of the five groups on the Cooperative Learning scale (significantly higher than learners of Chinese, French, and Japanese).

Table 18: Analysis of variance of scores on strategy scales by target language group

	French		Spanish		Japanese		Chinese		Filipino		F-value	p-value
	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD		
Cognitive	3.608	.549	3.514	.536	3.409	.564	3.507	.494	3.578	.523	8.162	<.0001
Social	3.228	.828	3.347	.809	3.295	.805	3.132	.864	3.792	.783	11.982	<.0001
Study skills	3.243	.646	3.293	.629	3.355	.628	3.026	.614	3.521	.544	11.053	<.0001
Coping	3.957	.566	4.083	.426	4.034	.441	3.852	.505	4.109	.441	8.483	<.0001

Scheffé for Cognitive strategies
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.071	.313	.9151	
Chinese, French	-.101	.283	.6693	
Chinese, Japanese	.098	.232	.5081	
Chinese, Spanish	-.007	.241	>.9999	
Filipino, French	-.030	.284	.9953	
Filipino, Japanese	.169	.234	.0459	
Filipino, Spanish	.064	.243	.8613	
French, Japanese	.199	.192	.0005	S
French, Spanish	.094	.202	.4070	
Japanese, Spanish	-.105	.122	.0083	

Scheffé for Social strategies
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.660	.464	<.0001	S
Chinese, French	-.096	.419	.9130	
Chinese, Japanese	-.164	.345	.3826	
Chinese, Spanish	-.215	.357	.1518	
Filipino, French	.564	.421	<.0001	S
Filipino, Japanese	.496	.347	<.0001	S
Filipino, Spanish	.445	.360	<.0001	S
French, Japanese	-.067	.284	.9035	
French, Spanish	-.119	.299	.5713	
Japanese, Spanish	-.051	.181	.8260	

Scheffé for Study Skills strategies
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.495	.356	<.0001	S
Chinese, French	-.217	.322	.0773	
Chinese, Japanese	-.329	.265	<.0001	S
Chinese, Spanish	-.267	.274	.0016	
Filipino, French	.278	.323	.0084	
Filipino, Japanese	.166	.267	.1255	
Filipino, Spanish	.228	.276	.0131	
French, Japanese	-.112	.218	.3011	
French, Spanish	-.050	.230	.9292	
Japanese, Spanish	.062	.139	.4472	

Scheffé for Coping strategies
 effect: LANGUAGE
 significance level: .1%

	mean diff.	crit. diff.	p-value	
Chinese, Filipino	-.258	.258	.0010	
Chinese, French	-.105	.233	.4356	
Chinese, Japanese	-.183	.192	.0021	
Chinese, Spanish	-.232	.199	<.0001	S
Filipino, French	.152	.234	.0995	
Filipino, Japanese	.075	.193	.5970	
Filipino, Spanish	.026	.200	.9895	
French, Japanese	-.077	.158	.3508	
French, Spanish	-.126	.167	.0309	
Japanese, Spanish	-.049	.101	.3568	

As displayed in Table 18, although students of all five languages report using coping strategies more frequently than those in other categories, there are again some differences by target language. Cognitive strategies are used most often by students of French (only the pair-wise comparison with learners of Japanese is significant). Social strategies are used more often by learners of Filipino than learners of any other language (comparisons with learners of Chinese, French, Japanese, and Spanish are all significant). Learners of Chinese report using both coping strategies and strategies associated with study skills less frequently than other language learners (for study skills, the comparisons with Filipino and Japanese are significant; for coping strategies, only the comparison with Spanish is significant).

MOTIVATION AND REPORTED STRATEGY USE

Tables 19–23 present the significant correlations (alpha again set at .001) between Part A (motivation) and Part C (learning strategies) and between each of the scales of motivation and the scales for learning strategies, separately for each target language group. Table 24 summarizes these results by presenting only those correlations for the entire learner sample that are significant at the .0001 level and that were also found to be significant for at least four of the five target language groups when these were analyzed separately.

Table 19: Correlations between the motivational scales and strategy scales for learners of Chinese

	Part C	Cognitive	Social	Study skills	Coping
Part A	.497*	.573*			.435*
Value	.508*	.406*			.359*
Heritage			.432*		
Expectancy		.390*			
Motiv'l Strength	.436*	.341*		.320	.390*
Competitiveness		.301			
Cooperativeness	.409*		.369		
Requirement					

* $p < .0001$

Table 20: Correlations between the motivational scales and strategy scales for learners of Filipino

	Part C	Cognitive	Social	Study skills	Coping
Part A	.488*	.456*		.437*	
Value	.392*	.453*		.344*	
Heritage					
Expectancy		.257		.246	
Motiv'l Strength	.406*	.243		.462*	.233
Competitiveness	.353	.273	.393*		.274
Cooperativeness	.391*		.334	.337*	.310
Requirement					

* $p < .0001$

Table 21: Correlations between the motivational scales and strategy scales for learners of French

	Part C	Cognitive	Social	Study skills	Coping
Part A	.575*	.588*		.536*	.268
Value	.553*	.534*		.500*	.279
Heritage					
Expectancy		.348*			
Motiv'l Strength	.500*	.390*		.532*	.310*
Competitiveness		.264			
Cooperativeness	.488*	.378*	.336*	.271	.443*
Requirement				-.300*	

* $p < .0001$

Table 22: Correlations between the motivational scales and strategy scales for learners of Japanese

	Part C	Cognitive	Social	Study skills	Coping
Part A	.447*	.498*		.373*	.238*
Value	.403*	.408*		.325*	.208*
Heritage	.111				
Expectancy	.172*	.264*			
Motiv'l Strength	.493*	.370*		.493*	.365*
Competitiveness	.214*	.241*		.190*	.253*
Cooperativeness	.394*	.240*	.328*	.250*	.408*
Requirement	-.140*	-.249*		-.141	

* $p < .0001$

Table 23: Correlations between the motivational scales and strategy scales for learners of Spanish

	Part C	Cognitive	Social	Study skills	Coping
Part A	.403*	.433*		.372*	
Value	.323*	.386*		.267*	
Heritage	.213*	.228*		.209*	
Expectancy		.266*		.141	
Motiv'l Strength	.485*	.312*	.138	.565*	.218*
Competitiveness	.232*	.247*		.177*	.152
Cooperativeness	.376*	.201*	.386*	.263*	.290*
Requirement	-.146	-.219*			

* $p < .0001$

Table 24: Summary of meaningful correlations between the motivational scales and strategy scales across all target language groups

	Part C	Cognitive	Social	Study skills	Coping
Part A	.430*	.456*		.378*	
Value	.369*	.419*		.315	
Heritage					
Expectancy		.298*			
Motiv'l Strength	.474*	.318*		.509*	.306*
Competitiveness		.243*			
Cooperativeness	.409*	.242*	.359*		.373*
Requirement					

* $p < .0001$

As can be seen in tables 19–24, the overall use of learning strategies (Part C) is significantly correlated both with Part A (motivation) and with three of our motivational scales Value, Motivational Strength, and Cooperativeness across and within all five target language groups, with correlation coefficients ranging from a low of .323 (Value*Strategy Use for learners of Spanish) to a high of .508 (Value*Strategy Use for learners of Chinese). Competitiveness can perhaps be considered an influence on strategy use also, since scores on this measure correlated with Part C at .232 for learners of Japanese, .232 for learners of Spanish, and a respectable .353 for learners of Filipino, but did not correlate significantly with Part C for learners of French or Chinese. Scores on the other three motivational scales appear to have much less of an effect on the use of learning strategies. The highest correlation between the Expectancy scale and Part C was .172 for learners of Japanese, significant only because of the large size of the sample and clearly not very meaningful. The Heritage scale correlated with reported overall strategy use only for learners of Japanese and Spanish, and again the correlations were low (.111 and .213, respectively). Finally, although responses to the Language Requirement correlated negatively with strategy use in the case of two groups (learners of Japanese and Spanish), these correlations are also low and cannot be considered meaningful.

This general pattern is confirmed when looking at correlations between specific scales for motivation and specific scales for learning strategies. Reported use of Cognitive strategies correlates with (in descending order of magnitude) scores on the Value, Motivational Strength, Expectancy, Competitiveness, and Cooperativeness scales. Study Skills strategies are correlated most highly with Motivational Strength; secondarily with Value. Coping strategies are significantly associated with Motivational Strength and Cooperativeness for all groups, with only some groups showing significant correlations with Value (Chinese and Japanese) and Competitiveness (Filipino and Spanish).

The results shown in Table 24 make it clear that not all aspects of motivation affect strategy use equally, and not all strategies are equally affected by motivational factors. The strongest predictor of strategy use among the motivational scales is Motivational Strength, closely followed by Value and Cooperativeness. Expectancy and Competitiveness predict some (but fewer) aspects of strategy use. The Heritage scale does not correlate significantly with any of the strategy scales for any target language group except for Cognitive and Study Skills strategies for learners of Spanish (.228 and .209, respectively) and Social strategies for learners of Chinese (.432). Although there are a few significant (negative) correlations between Language Requirement and Studies Skills (French, Japanese) and Cognitive Strategies (learners of Spanish), none of these relationships hold across the groups. It is also clear from tables 19–24 that the strategies most affected by motivation are those in our Cognitive scale, which contains items associated with both cognitive and metacognitive strategies, followed by Study Skills and Coping Strategies. The use of Social strategies appears largely unaffected by most aspects of motivation; the only exception is the significant correlation in all groups with the Cooperativeness scale from the motivation questionnaire.

MOTIVATION AND PEDAGOGY

Tables 25–29 display the significant correlations between Part A (motivation) and Part B (pedagogical preferences) and between each of the scales of motivation and the scales for pedagogy, separately for each target language group. Table 30 summarizes these results, displaying only those correlations for the entire learner sample that were consistently found to be significant when analyzing each group separately. As can be seen from these tables, motivation has an even greater effect on students' attitudes towards classroom pedagogy than it does towards their use of learning strategies. For each target language group, the correlation between Part A (motivation) and Part B (agreement with statements concerning pedagogy) is .50 or higher and highly significant. For learners of Japanese and Spanish, all seven motivational scales correlate significantly with Part B, and for learners of all target languages, Value, Motivational Strength, and Cooperativeness do. These three aspects of motivation, which (as shown above) have the strongest influence on learning strategies also have the strongest link with an overall appreciation of different aspects of foreign language pedagogy.

Table 25: Correlations between the motivational scales and pedagogy scales for learners of Chinese

	Part B	Traditional	Practical	Challenge	Cooperative	Innovative
Part A	.490*	.347*	.377*	.601*		.336
Value	.546*	.413*	.423	.634*		
Heritage						
Expectancy				.453*		
Motiv'l Strength	.289			.320		
Competitiveness						
Cooperativeness	.430*	.338	.354*		.343	.335
Requirement				-.385*		

* $p < .0001$

Table 26: Correlations between the motivational scales and pedagogy scales for learners of Filipino

	Part B	Traditional	Practical	Challenge	Cooperative	Innovative
Part A	.506*	.302	.329	.628*	.265	
Value	.421*			.556*		
Heritage						
Expectancy	.277			.474*		
Motiv'l Strength	.240					
Competitiveness	.307		.325	.279		
Cooperativeness	.442*	.408*		.310*	.475*	
Requirement				-.306		

* $p < .0001$

Table 27: Correlations between the motivational scales and pedagogy scales for learners of French

	Part B	Traditional	Practical	Challenge	Cooperative	Innovative
Part A	.564*	.277	.387*	.657*	.230	.416*
Value	.534*		.362	.600*		.490*
Heritage						.239
Expectancy				.453*		
Motiv'l Strength	.341*	.284*	.321*	.323*		
Competitiveness	.286*			.343*		
Cooperativeness	.617*	.385*	.507*	.353*	.521*	.414*

Requirement	-.326
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* $p < .0001$

Table 28: Correlations between the motivational scales and pedagogy scales for learners of Japanese

	Part B	Traditional	Practical	Challenge	Cooperative	Innovative
Part A	.529*	.378*	.347*	.587*		.327*
Value	.518*	.376*	.341*	.554*		.352*
Heritage	.108	.113				.186*
Expectancy	.233*	.184*	.128*	.428*		
Motiv'l Strength	.351*	.236*	.265*	.317*	.160*	.170*
Competitiveness	.271*	.204*	.214*	.253*		.174*
Cooperativeness	.457*	.224*	.352*	.252*	.469*	.232*
Requirement	-.261*	-.220*	-.130*	-.388*		-.140*

* $p < .0001$

Table 29: Correlations between the motivational scales and pedagogy scales for learners of Spanish

	Part B	Traditional	Practical	Challenge	Cooperative	Innovative
Part A	.501*	.299*	.321*	.604*		.294*
Value	.465*	.255*	.299*	.543*		.308*
Heritage	.217*	.148		.319*		.204*
Expectancy	.257*	.149	.199*	.406*		
Motiv'l Strength	.322*	.244*	.220*	.324*		.166*
Competitiveness	.229*	.159*	.136*	.282*		
Cooperativeness	.476*	.272*	.314*	.280*	.511*	.219*
Requirement	-.224*			-.375		-.175*

* $p < .0001$

Table 30: Summary of meaningful correlations between the motivational scales and pedagogy scales across all target language groups

	Part B	Traditional	Practical	Challenge	Cooperative	Innovative
Part A	.536*	.356*	.353*	.613*		
Value	.514*	.336*	.337*	.570*		.352*
Heritage						
Expectancy				.422*		
Motiv'l Strength	.345*			.321*		

Competitiveness			.272*	
Cooperativeness	.470*	.351*	.262*	.483*
Requirement			-.394*	

* $p < .0001$

The correlations between the specific motivation scales and the specific scales for pedagogical preferences also show the strong influence of Value (the belief that learning the language will be valuable for a variety of reasons), Cooperativeness, and Motivational Strength. For all five target language groups, Value correlates with approval of both traditional pedagogy and a more practically oriented proficiency approach, innovative approaches, and challenging approaches to language teaching; in other words, it correlates with all of our pedagogy scales except for Cooperative Learning. Motivational Strength and Expectancy, on the other hand, correlate most highly (and consistently across the language groups) with approval of challenging activities in the language class. Looking at the issue from the other direction, asking which types of language class activities are most liked or disliked depending on the level of students' motivation, gives an especially clear answer: challenging activities, including those that require students to participate actively. Challenge is viewed positively by students who see value in learning the language, by those who expect to succeed, by those with high motivational strength, and by those who score high on both the Cooperativeness and Competitiveness scales. However, challenging activities are not liked by students who say that they are mainly studying to fulfill the language requirement. Reminiscent of the results for strategies, the pedagogical preference for Cooperative Learning was consistently and significantly associated with just one of our motivational scales, that of Cooperativeness.

DISCUSSION

One of the major findings of this study has been that, for this population of students studying foreign languages in a U.S. university setting, one of the main components of motivation is Value, a factor that includes a large number of items that we originally assigned to separate categories labeled intrinsic motivation, instrumental orientation, integrative orientation, task value, and a general interest in foreign languages and cultures. It does not appear to be the case that some of the learners in our sample are instrumentally oriented towards language study, others have a general interest in languages and cultures, and yet others just enjoy language learning. Instead, we find that our learners either see value in learning the foreign language they are studying for *all of these reasons* or for none of them. On the other hand, for this population we clearly identified a distinct heritage language learning component. While an integrative orientation towards languages associated other social groups and cultures did not emerge as a separate factor, an orientation towards learning the language of one's own cultural heritage did emerge as a distinctive component of motivation. In each of our analyses, factors also emerged that we have labeled Expectancy, Motivational Strength, and Competitiveness, with an additional factor of Cooperativeness apparently playing a role as well.

As shown in several previous studies, motivation does affect the use of learning strategies, but the research reported here allows us to be more specific about that influence. This study shows that not all aspects of motivation affect strategy use equally, and not all strategies are equally affected by motivational factors. The strongest predictor of strategy use among our motivational scales is Motivational Strength, closely followed by Value and Cooperativeness. Expectancy and Competitiveness predict fewer aspects of strategy use, and there are no significant correlations that hold across the target language samples for either the Heritage scale or agreement with the statement that one is studying the language primarily to pass the language requirement. The strategies that are most affected by motivation are cognitive and metacognitive strategies. Those least affected are social strategies, which are consistently associated only with what we have called a Cooperativeness component of motivation, an orientation towards relationships with classmates and the teacher.

Not all aspects of motivation affect student preferences for pedagogical practices equally either, and the picture is very similar. Value, Motivational Strength, and Cooperativeness are consistently associated with scores indicating approval of various classroom practices, Expectancy and Competitiveness less consistently so, and the Heritage factor not at all. A liking for challenging activities in the foreign language classroom stood out among our pedagogy scales as the one most associated with various aspects of motivation, positively with Value, Expectancy, Motivational Strength, Competitiveness, and Cooperativeness but negatively with agreement with the statement that one is taking a language course primarily to fulfill the university language requirement.

Several of these findings merit some further comment: the fact that the use of cognitive strategies and a liking for challenge in the classroom are highly associated with motivation, whereas other strategies and other types of classroom activities are less so; the generally low association of Expectancy with either strategies or preferences compared with the influence of Value, Motivational Strength, and cooperativeness; the lack of influence of the heritage factor in general; the association of cooperativeness with the use of social strategies and a preference for cooperative learning; and the influence of the language requirement on motivation, reported strategy use, and classroom preferences.

- It makes sense that the use of cognitive strategies and a liking for challenge in foreign language classes are strongly associated with motivation, especially with the Value and Motivational Strength scales. If one believes that learning a language is worthwhile (for either instrumental or integrative reasons or simply because one enjoys language learning) one would reasonably be expected to use a variety of cognitive, metacognitive, and study skills strategies in order to achieve that valued goal. The same is true for those who demonstrate high motivational strength, which involves drive, determination, and a willingness to exert effort in support of the goal of language learning. An expectation of success based on self-confidence, low anxiety, and belief in one's language learning aptitude (internal, relatively stable factors) would perhaps not be linked as closely to the exercise of

learning strategies, and was not in this study. However, an expectation of success ought to be (and was) linked to approval of challenging activities in the language classroom.

- The lack of consistently significant associations between the Heritage factor and either strategies or pedagogical preferences is surprising, since we had expected this factor (clearly a distinct component of motivation for this population) to play a strong role in both domains. We thought, for example, that ethnic Chinese and Japanese students studying their heritage language might have a higher level of appreciation for a more traditional approach, whereas those who did not share that ethnic heritage might prefer a more practical, proficiency-oriented approach. This was not the case. Most of our students appreciate both traditional and more contemporary approaches, and heritage and non-heritage students do not differ in this regard. We have no firm opinion as to why this is so, but speculate that both heritage and non-heritage students who commit to learning Japanese (for example) also make a commitment both to Japanese culture and to the culture of the Japanese language classroom. We know from other research such as that of Kondo-Brown (this volume) and Syed (this volume) that the heritage factor is enormously important in language choice and persistence, but it seems that heritage and non-heritage students are not different in either learning strategy use or the kinds of classrooms and class activities they prefer.
- The associations among our Cooperativeness scale for motivation, reported use of social strategies, and a preference for cooperative learning come as no surprise. It makes sense that a concern for relationships with classmates and the teacher, a liking for group and pair activities, and a preference for learning with others should go together. We believe that there is probably a broad, personality-based dimension of sociability that cuts across the tripartite division into motivation, strategies, and pedagogical preferences in our questionnaire.
- The fact that students who agree with the statement that they are studying a language mainly to fulfill the language requirement are less likely to score high on other measures of motivation, report less use of some learning strategies (for some target language groups), and consistently exhibit a dislike for challenging activities in the foreign language classroom, is not surprising in the light of many studies showing that (in education in general) students who are truly interested in learning tend to use cognitive and meta-cognitive strategies, while students who are concerned more with grades and the fulfillment of requirements (performance goal orientations) are more likely to engage in measuring the difficulty of the task to see if they can perform it well enough (Dweck & Elliot, 1984). However, we caution that no important policy decisions should be based on this finding. Although there are a few significant (negative) correlations between responses concerning the language requirement and reported use of some learning strategies (study skills strategies in the case of learners of French and Japanese and cognitive and metacognitive strategies in the case of learners of Spanish), none of these

relationships hold across the groups. More importantly, we have not contrasted students who are studying in order to fulfill the language requirement with those who are not, since over 90% of the students in our sample were first and second year students who were, in fact, fulfilling the language requirement. This study does not show that having a language requirement lowers motivation or fosters poor learning habits. It shows that if students believe that the requirement is the only or primary reason to study the language then it has those negative effects.

We have also found differences among learners of different languages. Students of Spanish at this university are the most likely of any of our groups to report that they are studying the language mainly to satisfy the language requirement and least likely to claim the language as part of their heritage. They generally score lower than other groups on other measures of motivation, especially those items related to intrinsic motivation, both instrumental and integrative orientation, and interest in foreign language and culture that form our Value scale. Learners of Spanish, while agreeing that practical proficiency should be the goal of pedagogy, are less likely to agree strongly with the statements concerning active participation and challenge. Students of French share many of these characteristics to a certain degree, but usually not at levels that reach statistical significance in comparison with other groups. Although they score highest on our Cognitive learning strategy scale, they report the lowest frequency of strategy use overall. On no other scales do they have either the highest or lowest means.

Learners of Japanese at this university are characterized by their self-reports as having a high level of Motivational Strength (significantly higher than learners of French and Spanish), coupled with relatively low expectations of success compared to learners of other languages. It appears that learners of Japanese know that Japanese is a difficult language, and they are prepared to put in a great deal of effort for what they expect will be modest rewards. Appreciation of the importance and difficulty of learning kanji is perhaps why the learners of Japanese in our sample showed the highest agreement with a traditional pedagogical focus on grammar, vocabulary, reading, and writing.

Learners of Mandarin Chinese are similar to learners of Japanese and Filipino in scoring high on the heritage language factor and the motivational scale of Value. They score highest of any group on our Expectancy scale (which includes items related to self-confidence, self-related aptitude and lack of anxiety), although none of the pair-wise statistical comparisons were significant. They are somewhat less likely than students of other languages to indicate agreement that they are studying mainly to fulfill the language requirement. Learners of Chinese report using both coping strategies and strategies associated with study skills less frequently than other groups.

Learners of Filipino (Tagalog) in this population are mostly heritage learners. They are, in general, highly motivated and have especially high social motivation: They strongly agree that the teacher's opinion of them and their relationships with other students in the class are important. Learners of Filipino are especially likely to approve of innovative approaches (i.e., authentic materials, learner goal-setting, and a focus on culture) and score highest of the five groups on the Cooperative Learning scale. They

also report using social language learning strategies more often than learners of all the other language.

These are all interesting group differences, which in many cases correspond to what teachers of these languages say about their students, but we admit to some unease about them. The problem we see is that most of our students of Japanese, Chinese, and Filipino are heritage learners, that is, ethnically Japanese, Chinese, or Filipino, and that these group differences are very similar to the ethnic stereotypes of hardworking and self-effacing Japanese, smart and confident Chinese, and gregarious Filipinos. The fact that these generalizations arise from analysis of self-report questionnaires may indicate that the stereotypes are partly true, or just that they have been internalized by members of those groups. The question of whether non-heritage learners also present themselves in ways similar to the ethnic stereotypes associated with the languages they are studying is intriguing and suggests the potential fruitfulness of studies of language socialization in foreign language classes, but is not something on which our data can shed any clear light.

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APPENDIX A

QUESTIONNAIRE ITEMS

Part A: Motivation, 47 items

Intrinsic motivation

intrinsic 1	I really enjoy learning this language.
intrinsic 2	My language class is a challenge that I enjoy.
intrinsic 3	When class ends, I often wish that we could continue.
intrinsic 4	I enjoy using this language outside of class whenever I have a chance.
intrinsic 5	I don't like language learning. (<i>reverse coded</i>)
intrinsic 6	I would take this class even if it were not required.

Language requirement (1 item)

langreq 1	I mainly study this language to satisfy the university language requirement.
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Instrumental orientation (3 items)

instr 1	Being able to speak this language will add to my social status.
instr 2	Increasing my proficiency in this language will have financial benefits for me.
instr 3	I am learning this language to understand films, videos, or music.

Heritage language (2 items)

heritage 1	This language is important to me because it is part of my cultural heritage.
heritage 2	I have a personal attachment to this language as part of my identity.

Integrative orientation (3 items)

integrative 1	Studying this language is important because it will allow me to interact with people who speak it.
integrative 2	I am learning this language to be able to communicate with friends who speak it.
integrative 3	I want to be more a part of the cultural group that speaks this language.

Interest in foreign languages and cultures (4 items)

interest 1	I would like to learn several foreign languages.
interest 2	I enjoy meeting and interacting with people from many cultures.
interest 3	Studying foreign languages is an important part of education.
interest 4	This language is important to me because it will broaden my world view.

Task value (3 items)

task val 1	I like the subject matter of this course.
task val 2	It is important to me to learn the course material in this class.

task val 3 What I learn in this course will help me in other courses.

Expectancy (3 items)

expectancy 1 I'm certain I can master the skills being taught in this class.
expectancy 2 I believe I will receive an excellent grade in this class.
expectancy 3 I am worried about my ability to do well in this class. (*reverse coded*)

Anxiety (6 items)

anxiety 1 I feel uncomfortable when I have to speak in this class.
anxiety 2 When I take a test I think about how poorly I am doing.
anxiety 3 I have an uneasy, upset feeling when I take an exam.
anxiety 4 I don't worry about making mistakes when speaking in front of this class. (RC)
anxiety 5 I am afraid that my teacher is ready to correct every mistake I make.
anxiety 6 I feel more tense and nervous in this class than in my other classes.

Language aptitude (4 items)

aptitude 1 I can imitate the sounds of this language very well.
aptitude 2 I can guess the meaning of new vocabulary words very well.
aptitude 3 I am good at grammar.
aptitude 4 In general, I am an exceptionally good language learner.

Competitiveness (4 items)

competitive 1 Getting a good grade in this class is the most important thing for me right now.
competitive 2 I want to learn this language because it is important to show my ability to others.
competitive 2 I learn best when I am competing with other students.
competitive 2 I want to do better than the other students in this class.

Cooperativeness (3 items)

cooperative 1 I learn best in a cooperative environment.
cooperative 2 My teacher's opinion of me in this class is very important.
cooperative 3 My relationship with the other students in this class is important to me.

Motivational strength (5 items)

mt strength 1 I often feel lazy or bored when I study for this class. (*reverse coded*)
mt strength 2 I work hard in this class even when I don't like what we are doing.
mt strength 3 When course work is difficult, I either give up or only study the easy parts. (RC)
mt strength 4 Even when course materials are dull and uninteresting, I always finish my work.
mt strength 5 I can truly say that I put my best effort into learning this language.

Part B: Preferences for instructional activities, 20 items

Traditional approach (3 items)

grammar	Grammar should be an important focus in this class.
read/write	Reading and writing should be an important focus in this class.
vocabulary	Vocabulary should be an important focus in this class.

Practical proficiency orientation (7 items)

relevant	Language lessons should be relevant to the students' learning goals.
ask Q's	Students should ask questions whenever they have not understood a point in class.
pronunciation	Pronunciation should be an important focus in this class.
listen/speak	Listening and speaking should be an important focus in this class.
communicate	Activities in this class should be designed to help the students improve their abilities to communicate in this language.
feedback	It is important that the teacher give immediate feedback in class so that students know if they are correct.
everyday lg	Language instruction should focus on the general language of everyday situations.

Challenging approaches (4 items)

no English	During this class, I would like to have no English spoken.
challenge	In a class like this, I prefer activities and material that really challenge me to learn more.
active part.	I prefer a language class in which there are lots of activities that allow me to participate actively.
must speak	I prefer to sit and listen, and don't like being forced to speak in language class. (<i>reverse coded</i>)

Cooperative learning (3 items)

pairs/group	I like language learning activities in which students work together in pairs or small groups.
not alone	I prefer to work by myself in this language class, not with other students. (<i>reverse coded</i>)
cohesiveness	I prefer a language class in which the students feel they are a cohesive group.

Innovative approaches (3 items)

culture	Culture should be an important focus in this class.
goal-setting	I like to set my own goals for language learning.
authentic	I like language classes that use lots of authentic materials.

Part C: Learning strategies, 24 items

Cognitive strategies (7 items)

relate vocab	I try to relate new vocabulary words to other words I know.
compare lgs	I always compare this language with other languages I know.
guess	I try to guess the meaning of new vocabulary words from context.
patterns	I look for patterns in this language on my own.
eval prog	I always evaluate my progress in learning this language.
preview	When studying, I think through a topic and decide what I need to learn about it.
clarify	I ask the instructor to clarify concepts I don't understand well.

Social strategies (3 items)

work w/ others	I try to work with other students from this class on assignments.
classmates	When studying, I often discuss the course material with my classmates.
ask other's help	When I can't understand the material, I ask another student in this class for help.

Study skills: time, place, & effort management (8 items)

organize study	When I study, I carefully organize what I have learned in this class.
review test	After a test I always review difficult material to be sure I understand it all.
place for study	I have a regular place set aside for studying.
time to prepare	I always arrange time to prepare before every language class.
re-read	When studying, I reread all the course material.
review early	In preparing for tests, I usually review the material a few days ahead of time.
not last minute	I usually wait until the night before to study for a quiz or a major test. (<i>reverse coded</i>)
periodic study	I usually study vocabulary periodically rather than in one long session.

Coping strategies (6 items)

repeat words	I repeat new vocabulary words to memorize them.
find gaps	When studying for a test, I try to determine which concepts I don't understand well.
see words first	I like to see words before I pronounce them.
look words up	When I get to a word that I don't know, I usually look it up.
try to keep up	I am mostly concerned in this class with keeping up with the materials and activities that we have to do.
what's on test?	I really like to know what will be on a test so that I can study for it.

APPENDIX B

SCALES USED IN ANOVA AND CORRELATIONAL ANALYSES

Part A: Motivation

Value

I really enjoy learning this language.
My language class is a challenge that I enjoy.
When class ends, I often wish that we could continue.
I enjoy using this language outside of class whenever I have a chance.
I don't like language learning. (*reverse coded*)
I would take this class even if it were not required.
Being able to speak this language will add to my social status.
Increasing my proficiency in this language will have financial benefits for me.
I am learning this language to understand films, videos, or music.
Studying this language is important because it will allow me to interact with people who speak it.
I am learning this language to be able to communicate with friends who speak it.
I want to be more a part of the cultural group that speaks this language.
I would like to learn several foreign languages.
I enjoy meeting and interacting with people from many cultures.
Studying foreign languages is an important part of education.
This language is important to me because it will broaden my world view.
I like the subject matter of this course.
It is important to me to learn the course material in this class.

Heritage

This language is important to me because it is part of my cultural heritage.
I have a personal attachment to this language as part of my identity.

Expectancy

I'm certain I can master the skills being taught in this class.
I believe I will receive an excellent grade in this class.
I am worried about my ability to do well in this class. (*reverse coded*)
I feel uncomfortable when I have to speak in this class. (*reverse coded*)
When I take a test I think about how poorly I am doing. (*reverse coded*)
I have an uneasy, upset feeling when I take an exam. (*reverse coded*)
I don't worry about making mistakes when speaking in front of this class.
I am afraid that my teacher is ready to correct every mistake I make. (*reverse coded*)
I feel more tense and nervous in this class than in my other classes. (*reverse coded*)
I can imitate the sounds of this language very well.
I can guess the meaning of new vocabulary words very well.
I am good at grammar.
In general, I am an exceptionally good language learner.

Motivational strength

I often feel lazy or bored when I study for this class. (*reverse coded*)
I work hard in this class even when I don't like what we are doing.
When course work is difficult, I either give up or only study the easy parts. (RC)
Even when course materials are dull and uninteresting, I always finish my work.
I can truly say that I put my best effort into learning this language.

Competitiveness

Getting a good grade in this class is the most important thing for me right now.
I want to learn this language because it is important to show my ability to others.
I learn best when I am competing with other students.
I want to do better than the other students in this class.

Cooperativeness

I learn best in a cooperative environment.
My teacher's opinion of me in this class is very important.
My relationship with the other students in this class is important to me.

Language requirement

I mainly study this language to satisfy the university language requirement.

Part B: Pedagogical preferences

Traditional approach

Grammar should be an important focus in this class.
Reading and writing should be an important focus in this class.
Vocabulary should be an important focus in this class.

Practical proficiency

Language lessons should be relevant to the students' learning goals.
Students should ask questions whenever they have not understood a point in class.
Pronunciation should be an important focus in this class.
Listening and speaking should be an important focus in this class.
Activities in this class should be designed to help the students improve their abilities to communicate in this language.
It is important that the teacher give immediate feedback in class so that students know if they are correct.
Language instruction should focus on the general language of everyday situations.

Challenge

During this class, I would like to have no English spoken.
In a class like this, I prefer activities and material that really challenge me to learn more.
I prefer a language class in which there are lots of activities that allow me to participate actively.
I prefer to sit and listen, and don't like being forced to speak in language class. (*reverse coded*)

Cooperative learning

I like language learning activities in which students work together in pairs or small groups.
I prefer to work by myself in this language class, not with other students. (*reverse coded*)
I prefer a language class in which the students feel they are a cohesive group.

Innovative approaches

Culture should be an important focus in this class.
I like to set my own goals for language learning.
I like language classes that use lots of authentic materials.

Part C: Learning strategies

Cognitive and metacognitive strategies

I try to relate new vocabulary words to other words I know.
I always compare this language with other languages I know.
I try to guess the meaning of new vocabulary words from context.
I look for patterns in this language on my own.
I always evaluate my progress in learning this language.
When studying, I think through a topic and decide what I need to learn about it.
I ask the instructor to clarify concepts I don't understand well.

Social strategies

I try to work with other students from this class on assignments.
When studying, I often discuss the course material with my classmates.
When I can't understand the material, I ask another student in this class for help.

Study skills strategies

When I study, I carefully organize what I have learned in this class.
After a test I always review difficult material to be sure I understand it all.
I have a regular place set aside for studying.
I always arrange time to prepare before every language class.
When studying, I reread all the course material.
In preparing for tests, I usually review the material a few days ahead of time.
I usually wait until the night before to study for a quiz or a major test. (*reverse coded*)
I usually study vocabulary periodically rather than in one long session.

Coping strategies

I repeat new vocabulary words to memorize them.
When studying for a test, I try to determine which concepts I don't understand well.
I like to see words before I pronounce them.
When I get to a word that I don't know, I usually look it up.
I am mostly concerned in this class with keeping up with the materials and activities that we have to do.
I really like to know what will be on a test so that I can study for it.
