Foreign Language Learning Disabilities: The Identification of Predictive and Diagnostic Variables

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Many students who repeatedly fail foreign language requirements, in spite of intensive tutoring, high academic potential, and motivation, are being referred to programs for learning disabled university students. Guidelines for diagnosing a disability in learning a foreign language, however, are not available. This research presents a method for identifying predictors of success in learning a foreign language at the university level and compares the performance of students identified as learning disabled on these predictors. The scores of regular students enrolled in introductory foreign language classes on the Modern Language Aptitude Test were compared with their foreign language course performance. The fourth and fifth subtests predicted a relationship to learning a foreign language. In addition, university learning disabled students exhibited significantly lower performance on all five of the Modern Language Aptitude subtests. The results of this study suggest that the information provided by the Modern Language Aptitude Test (especially the fourth and fifth subtests) is potentially valuable to the diagnostic process.

A number of institutions of higher education are considering modifications of foreign language requirements for students with learning disabilities. In a survey of colleges and universities, results showed that out of 53 institutions 14 did not have a policy, 9 were considering a policy, and 32 had implemented a variety of systems (Keeney & Smith, 1984). These ranged from dropping the requirements to allowing course substitutions. Studies addressing the existence or diagnosis of a specific foreign language disability are, however, scarce. This is surprising since diagnosis must precede exemptions from, or substitution for, the foreign language requirement.

For over two decades Dr. Kenneth Dinklage, a clinical psychologist at Harvard, has studied students who cannot learn a foreign language due to specific language disabilities. He has described two groups of students: those who exhibit a specific language disability (poor reading and spelling skills, reversals, right-left confusion, etc.) and those who exhibit what might be labeled an "audiolingual" disability (poor auditory discrimination skills, sometimes coupled with poor memory for auditory symbolic material). He has outlined procedures for identifying the learning disabled student prior to his or her failure with the foreign language requirement. In addition, he urges universities to consider exemptions or substitutions for these students (Dinklage, 1971, 1985).

A review of the literature supports the existence of a disability in learning a foreign language. Historically, many students identified as possessing a high degree of academic aptitude have failed to learn a foreign language (Ayers, Bustamante, & Campana, 1973; Carroll, 1962). Attrition rates in foreign language training schools conducted by the military have at times reached the 80th percentile (Williams & Leavitt, 1947). Some teachers and psychologists hold a strong belief that learning a foreign language may involve unique talents and skills not required by other academic subjects (Carroll, 1962). Two-thirds of the foreign language teachers sampled in an international survey felt there was "such a thing as linguistic aptitude apart from general intelligence" (Fife, 1931, p. 135).

At The Pennsylvania State University a number of students were referred to the Comprehensive Model Program for Learning Disabled University Students because they were having difficulty learning a foreign language. Admittedly, the existence of a foreign language disability is equivocal. However, students who repeatedly failed foreign language courses, in spite of intensive tutoring, high academic potential, and motivation, were being referred for diagnosis. The above cited review of the literature indicated that others in the field had encountered students with a similar problem. The problem of diagnosis and intervention, however, remain.

The purpose of this study was to identify diagnostic predictors of success in learning a foreign language for normal university students, to develop university norms for these predictors, and to compare the performance of learning disabled university students on these predictors.

METHOD

The Modern Language Aptitude Test

The Modern Language Aptitude Test (MLAT) was selected as a potential measure of foreign language aptitude (Carroll & Sapon, 1959). The subtests purport to assess a variety of abilities (memory, auditory discrimination, and grammatical sensitivity) thought to be related to foreign language learning ability (Dinklage, 1971). These abilities have been cited in the learning disabilities literature as potential areas of deficit in populations with learning disabilities. For example, learning disabled (LD) children often demonstrate particular deficiencies in the processing of syntax (Meier, 1971; Rosenthal, 1970; Semel & Wiig, 1975; Wiig & Roach, 1975; Wiig & Semel, 1976). Learning disabled students may also exhibit deficiencies in auditory discrimination and memory (Boder, 1973; Denckla, 1977; Hallahan & Kauffman, 1982; In-

gram, Mason, & Blackburn, 1970; Myklebust, 1965). In addition to measuring specific abilities, a general consensus exists that the MLAT is the best available predictor of achievement in foreign language learning (Allen & Natelson, 1977; Gardner & Lambert, 1972; Lutz, 1967).

The MLAT consists of the following five subtests administered through an audio recording (Carroll & Sapon, 1959):

Subtest 1: Number Learning. This subtest is reported to measure memory and "auditory alertness," which is thought to be important in auditory comprehension.

Subtest 2: Phonetic Script. This assesses "sound-symbol association ability," which appears to be related to the ability to understand and mimic speech sounds.

Subtest 3: Spelling Clues. This highly speeded test assesses sound-symbol association ability and knowledge of English vocabulary.

Subtest 4: Words in Sentences. This is thought to measure "sensitivity to grammatical structure" and is thought not to depend on formal instruction in grammar, since no grammatical terminology is involved.

Part 5: Paired Associates. This is a test of rote memory.

Procedure

Since the norms of the MLAT (Carroll & Sapon, 1959) were outdated, and in order to identify predictors of learning a foreign language at The Pennsylvania State University, the test was administered to all regular students enrolled in introductory French, German, and Spanish classes. MLAT scores were then compared with foreign language course performances represented by each student's final grade in his or her foreign language course. Final grades were determined by class participation, homework assignments, performance on weekly quizzes, a midterm, and a final examination. The final and midterm examinations received the most weighting in the determination of a final grade. To determine which subtests of the MLAT contributed most to the prediction of foreign language learning, a multiple regression equation was computed using a forward stepwise procedure.

Following this analysis, scores on the MLAT of learning disabled students referred to the Univesity Program for the Learning Disabled were compared with a randomly selected stratified norm sample (every fifth student of the above population by final grade) on each predictor. Analyses were conducted via independent *t*-tests.

Subjects

The comparison population consisted of 244 students enrolled in beginning French, German, and Spanish classes; 62 students from five French classes; 83 students from five Spanish classes; and 99 students from six German classes. The population included 133 males and 111 females, with a mean age of less than 21 years. No one was over 25 years of age. Final grades in the foreign language classes were as follows: 129 students achieved an A, 71 students achieved a B, 30 students achieved a C, 10 students achieved a D, and 4 students achieved an F. (See Table 1 for additional descriptive parameters.)

Subjects in the randomly selected group (every fifth student of the population by final course grade) consisted of 50 students, 25 males and 25 females. Final foreign language grades included the following: 26 students with a grade of A, 15 students with a grade of B, 6 students with a grade of C, 2 students with a grade of D, and 1 student with a grade of F. Grade frequencies were roughly equivalent to population frequencies. The random stratified sampling used was selected to insure a proportional and appropriate representation of the normal population.

Subjects in the learning disabled sample consisted of 51 degree students at The Pennsylvania State University who had been referred to, and diagnosed by, the staff of the University Program for Learning Disabled Students. Diagnosis was based on a severe discrepancy between ability and achievement (usually 40 percentile points or approximately 1.5 standard deviations) as measured by the Wechsler Adult Intelligence Scale-Revised (WAIS-R, Wechsler, 1981), Verbal (V), Performance (P), and Total (T) scores; the Woodcock-Johnson (WJ, Woodcock, 1978) Psychoeducational Battery (Part 2), Reading (R), Arithmetic (A), Written Expression (WE), and General Knowledge (GK) scores; the Modern Language Aptitude Test (MLAT; Carroll & Sapon, 1959); and a writing sample. Additional variables used in diagnosis included behavioral characteristics associated with learning disabled adults (Clyde-Snyder, 1981), background information, and/or previous diagnosis. The sample included 34 males and 17 females with an age range of 18-29, and a mean age of 22. Only four of the subjects were referred because of problems in learning a foreign language. Other referral areas

Table 1
Means, Standard Deviations, and Ranges on all MLAT Subtests, Grade Point Average, SAT Verbal and Math Scores for University Norm Population (N = 244)

Variable	Mean	Standard Deviation	Range
MLAT-1[a]	36.66	6.94	7-43
MLAT-2[a]	25.28	3.71	14-30
MLAT-3[a]	18.96	8.15	1-38
MLAT-4[a]	24.87	6.10	9-38
MLAT-5[a]	19.19	5.02	0-24
Grade Point Average	2.76	.63	0-3.82
SAT Verbal	562.31	88.90	280-790
SAT Math	618.82	85.26	310-800

[a]MLAT = Modern Language Aptitude Test

included problems with written expression, memory, reading, math, and study skills. See Table 2 for descriptive statistics.

RESULTS

Table 3 presents the results of a stepwise regression analysis of The Pennsylvania State University norm population MLAT scores for the dependent variable of grade. It is apparent from Table 3 that the MLAT-4 does a reasonable job of predicting foreign language achievement at The Pennsylvania State University. By including the MLAT-5, a slight but nonsignificant increase in R^2 is produced.

Table 4 presents the means, standard deviations, and *t*-test analysis on MLAT scores for the LD Subjects (N = 50). As predicted, these students scored lower ($p < .001$) on all five subtests.

DISCUSSION

Students with high potential who repeatedly fail foreign language requirements at the university level are being referred to programs for learning disabled students. Criteria for diagnosing a disability in learning a foreign language, however, have not been established. This study presented a method of identifying predictors of success in learning a foreign language at the university level and compared the performance of identified learning disabled students with normal students on these predictors.

The results suggest that the fourth and fifth subtests of the MLAT (Carroll & Sapon, 1959) predict a moderate relationship to success in learning a foreign language. The MLAT-4 reportedly assesses "sensitivity to grammatical structure" (Carroll & Sapon, 1959, p. 4), an area of deficit in LD populations. Low scores on the MLAT-5 are symptomatic of a memory deficiency, probably attributable to the use of inappropriate mnemonic strategies by the learner, and also an area of deficit in LD populations. The LD sample in this study exhibited significantly lower performance on all five of the MLAT subtests. This result suggests that many university LD students will experience problems in learning a foreign language.

There is a growing body of literature demonstrating the effectiveness of certain mnemonic strategies for improving one's foreign language vocabulary learning ability (Paivio & Desrochers, 1981). These techniques, in particular the "keyword" method, are of greatest benefit to students who do not initially perform well on memory tasks (Pressley, Levin, Najamura, Hope, Bispo, & Toye, 1980).

While the diagnostic tests (i.e., the MLAT-4, MLAT-5) are by no means deterministic of foreign language proficiency, a relationship does exist. The limitations of the selection of subjects for this study, being confined to one university setting, is obvious. The development of local norms and predictors in other university settings, however, has potential. The results of this study suggest that the information provided by the MLAT subtests is potentially valuable. Future research will dictate how valuable the information is.

For now, it is suggested that students

Table 2
Means, Standard Deviations, and Ranges: WAIS-R, Woodcock-Johnson, Grade Point Average, and SAT Scores for Learning Disabled Sample (N = 51)

Variable[a]	Mean	Standard Deviation	Range
WAIS-R Verbal	68.86	21.935	27-98
WAIS-R Performance	59.72	25.56	7-98
WAIS-R Total	66.32	23.33	18-97
Woodcock-Johnson Reading	54.51	26.28	1-97
Woodcock-Johnson Arithmetic	26.28	28.13	10-97
Woodcock-Johnson Writing	42.41	25.35	4-83
Woodcock-Johnson General	65.60	23.71	21-97
Current GPA	2.34	.69	0-3.32
SAT Verbal	439.15	98.29	300-550
SAT Math	490.37	117.09	280-610

[a]Scores for the WAIS-R and Woodcock-Johnson are in percentiles.

Table 3
Stepwise Regression on University Norm Population Modern Language Aptitude Subtest Scores for Dependent Variable Grade (N = 244)

Step	Variable	R^2	R	F	$p<$
1	MLAT-4	.174	.417	50.79	.001
2	MLAT-5	.180	.424	1.84	.17

Table 4
Means, Standard Deviations, and *t*-Test Analysis on MLAT[a] Scores by Group

Subtest	Group	Mean	Standard Deviation	t	$p<$
MLAT-1	Learning Disabled	26.51	11.01	6.22	.0001
	University Norm Population	37.20	5.39		
MLAT-2	Learning Disabled	21.67	4.28	4.33	.0001
	University Norm Population	25.12	3.70		
MLAT-3	Learning Disabled	11.22	6.61	4.73	.0001
	University Norm Population	17.88	7.51		
MLAT-4	Learning Disabled	17.12	7.81	5.21	.0001
	University Norm Population	24.50	7.40		
MLAT-5	Learning Disabled	12.12	5.45	5.21	.0001
	University Norm Population	18.16	5.48		

[a]MLAT = Modern Language Aptitude Test.

with high academic potential who exhibit positive attitudes toward learning a foreign language, but who score low on the MLAT subtests, and/or who have shown low achievement in learning a foreign language, may be learning disabled.

ABOUT THE AUTHOR

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