

Foreign Language Learning Aptitudes, Attitudes, Attributions, and Achievement of Postsecondary Students Identified as Gifted

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Although academic aptitudes among students identified as gifted are often reported and discussed in the refereed literature (e.g., Dai & Renzulli, 2008; Feldhusen & Moon, 1992), attitudes and attributions for academic success are more often discussed (e.g., Smith & Renzulli, 1984) than studied empirically (e.g., Bell & Schindler, 2001/2002; McCoach & Siegle, 2003). Most existing studies focus on students in their elementary and secondary school years. Aside from descriptive studies of honors programs

We investigated the aptitudes, attitudes, attributions, and achievement of undergraduates identified as gifted who were taking a beginning Spanish course, and compared these characteristics to undergraduates in the same cohort group who had not been identified as gifted. There were differences in the aptitudes, attitudes, and achievement of postsecondary introductory Spanish students who had been identified as gifted and their nongifted peers. Gifted students had higher scores than nongifted students on the aptitude scale. The gifted group displayed a more positive attitude toward learning a foreign language than the nongifted group. Based on their performances on the attribution scale, the students identified as gifted and their nongifted peers did not differ in their attributions for ability, effort, teacher impact (context), or chance as explanations for their success in foreign language learning. Our findings seem to lead to suggestions for foreign language instructors to increase their focus on developing positive attitudes in all students, and on developing greater knowledge about native language skills (in this case, English) to enhance foreign language learning. However, research investigating the efficacy of such instruction is notably lacking. Therefore, studies investigating both of these areas would be welcome.

Summary

in college and university settings, investigation of postsecondary students' attitudes is lacking. We investigated the aptitudes, attitudes, attributions, and achievement of undergraduates identified as gifted who were taking a beginning Spanish course, and compared these characteristics to undergraduates in the same cohort group who had not been identified as gifted. The following section presents the existing research regarding language aptitude, particularly its purported relationship to general and specific cognitive domains, as well as research related to affective variables, attitudes, and attributions that may influence general academic success and foreign language learning.

Background

General and Specific Abilities for Learning a Second Language

Is there a link between general or specific cognitive abilities and foreign language learning ability? Should we expect students identified as gifted to find foreign language learning easier than their nonidentified peers? In support of a link between foreign language ability and general cognitive abilities, Onwuegbuzie, Bailey, and Daley (2000) reported a moderate relationship between academic achievement (measured by grade point average [GPA]) and success in learning a second language. Based on their study of 184 university students enrolled in foreign language courses at a university in the Mid-South region of the United States, the authors found that GPA explained 11.5% of the variance in foreign language achievement. Although this research does not include a variable specifically identified as cognitive ability, it does verify a relationship between general academic success and success in foreign language courses.

Most of the studies that examine the relationship between cognitive ability, rather than academic achievement, and success in learning a second language have originated not in the U.S., but rather in countries where fluency in two or more languages

is a valuable asset in terms of gaining employment. For example, Sustekova (1984a) identified factors representing verbal ability as predictors of foreign language achievement in a Czechoslovakian sample of fifth through eighth graders, and Wesche, Edwards, and Wells (1982) constructed a hierarchical model related to foreign language learning, based on a Canadian sample of adults. In a later study, based on a group of Scandinavian ninth graders, Lehto (1995) proposed a phonological loop, representing a subsystem of working memory that involves repetition of brief amounts of information at a subvocal level.

Recently, Lehmann, Juling, and Knopf (2002) tested two rival proposals: (a) that general intelligence determines domain-specific performance in areas such as mathematics or foreign language, or (b) that special abilities determine domain-specific achievements. Comparing two groups of 10- to 11-year-old students who excel in mathematics or foreign language, the authors found evidence for the second hypothesis, reporting that their factor analytic findings demonstrated a mathematics special ability factor and a foreign language special ability factor.

Observations and evidence that adults tend to have more difficulty learning a second language than children led to the proposal of the Critical Period Hypothesis (CPH), which suggests that the critical period for language learning is in childhood, and that the window for optimal language learning closes in early adolescence; second language learning gradually becomes more difficult from the age of about 6 or 7 to the late teenage years or beyond (e.g., Bialystok & Hakuta, 1999; Johnson & Newport, 1989). For a succinct, critical review of CPH as well as the controversies that surround the hypothesis, see DeKeyser (2000). Researchers have proposed that children do have an advantage in ultimate acquisition of a second language but not necessarily in the rate at which they learn (e.g., Slavoff & Johnson, 1955). According to Bley-Vroman's (1988) Fundamental Difference Hypothesis, children rely on cognitive mechanisms that are considered implicit and language-specific; adults must depend on general mechanisms such as verbal analytic ability and on explicit techniques.

Studies investigating the relationship between cognitive variables and success in foreign language learning at the post-secondary level are rare. Among such studies, the focus is sometimes on a subsample of students identified as having learning disabilities or Attention Deficit/Hyperactivity Disorder (e.g., Ganschow, Sparks, Javorsky, & Pohlman, 1991; Hughes & Smith, 1990; Sparks, Javorsky, & Philips, 2005). In one of these studies, Ganschow and colleagues (1991) compared two groups of college students, 15 successful and 15 unsuccessful foreign language learners, on several variables, including intelligence. The authors found no differences between the two groups on tests of intelligence or reading comprehension but did find differences in the areas of syntax and phonology, with the unsuccessful group scoring significantly lower than the successful group. Later, Sparks and Ganschow (1993, 2001) and Sparks (1995) proposed a Linguistic Coding Differences (LCD) Hypothesis based on these and other related research findings. According to the LCD Hypothesis, native skills in language provide a foundation for learning a second language. That is, when an individual has difficulties with one component of language, such as phonology or orthography, these difficulties will be reflected in problems learning both native language and a second language. Students who are successful in learning a second language tend to exhibit strengths in phonological, orthographic, and syntactic abilities but do not necessarily show strengths in semantics.

Studies examining foreign language aptitudes of students who are intellectually gifted are scarce. In three articles related to this topic, the researchers have primarily focused on psychological and personality dimensions or affective dimensions (Garfinkel, Allen, & Neuharth-Pritchett, 1993; Sustekova, 1984b, 1987), not on relationships between cognitive aptitude and success in learning a foreign language.

Among the few studies investigating cognitive ability and foreign language learning, the predominant findings support the relationship of domain-specific abilities with learning a second language. However, there is some evidence that general academic achievement explains some of the variance in foreign language

achievement. Based on this review of the research, we would expect that students who have been identified as gifted would perform better in foreign language classes, with performance variations based on relative strength of working memory, phonology, orthography, and syntax.

Affective Dimensions of Foreign Language Learning

The following two subsections briefly review the literature examining two affective dimensions that may influence success in foreign language learning for students in general, and for students specifically identified as gifted. The first dimension, attitudes toward foreign language learning, has occasionally been studied in the refereed literature, but research concerning attributions for success in foreign language learning is rare. For this reason, we discuss the second dimension, attributions, from a broader perspective: attributions for academic success among students who are gifted and their peers.

Attitudes toward foreign language learning. As they do for general education students, attitudes toward learning can play a primary motivating role in goal attainment for students who are gifted. Garfinkel and colleagues (1993) have suggested that affective dimensions must be included in the teaching of foreign language to students identified as gifted, following Krathwohl, Bloom, and Masia's Taxonomy (1964). According to Sparks and Ganschow (2001), success in learning a foreign language is influenced by affective variables as well as cognitive factors.

Few studies have investigated the relationship between previous experiences in foreign language classes and attitudes toward learning a second language. Sparks, Ganschow, and Javorsky (1993) used the Foreign Language Attitudes and Perceptions Survey to demonstrate differences in foreign language attitudes between groups of high school students identified as learning disabled, high risk, and non-high risk ($N = 79$). Predictably, they did find more positive attitudes from the group that was not at risk. Obtaining similar results with a study of 278 university students, Scott, Bell, and McCallum (2009) reported that university

students who had performed poorly on native language learning tasks displayed more negative attitudes toward foreign language learning than students who performed well on the same tasks, despite the fact that the two groups expressed similar levels of desire to learn a foreign language. Although Kuhlemeier, Van Den Bergh, and Melse (1997) did not investigate previous experiences in learning a foreign language specifically, they found evidence, based on 1,300 Dutch students, that attitudes toward foreign language learning at the beginning and end of a German course predicted achievement in foreign language learning.

In summary, research studies investigating attitudes toward foreign language learning and subsequent success in learning a second language are infrequent in the refereed literature. Studies that specifically investigate attitudes toward learning foreign language among university students who are gifted are apparently absent in the refereed literature.

Attributions for academic success among students who are gifted and their peers. Studies of attributional tendencies in children who are gifted are relatively common in the refereed literature, particularly dating from the mid-1980s through the 1990s. Among earlier studies, Brody and Benbow (1986) found that 301 highly talented adolescents scored higher on general internal locus of control (not focusing on academic competence) than a comparison group of 205 high achievers. Similarly, Collier, Jacobson, and Stahl (1987) examined a group of 179 sixth through ninth graders, both gifted and age-matched typically achieving students. As in the Brody and Benbow study, the students who were gifted tended to have higher scores for internal locus of control in their general attributions for success and failure.

Several researchers have investigated attributions specifically for academic success among groups of children who are gifted and comparison groups. Engelberg and Evans (1986) focused on attributions for good grades among 213 fourth, fifth, and sixth graders classified as either intellectually gifted, with learning disabilities, or typically achieving. The intellectually gifted group achieved the highest scores, attributing good grades to internal and controllable causes. Similarly, Kurtz and Weinert

(1989) investigated attributions for academic success among 113 German fifth- and seventh-grade students identified as gifted or average achievers. Students identified as gifted were more likely to attribute their success in academics to high ability while the average students displayed stronger beliefs in effort as explanations for success.

Laffoon, Jenkins-Friedman, and Tollefson (1989) investigated attributions for achievement in 21 third through fifth graders who were grouped as underachieving gifted, achieving gifted, and nongifted. Interestingly, the underachieving gifted students attributed success to ability at higher rates than the achieving gifted and the nongifted groups. The achieving gifted group obtained lower scores than the underachieving gifted and the nongifted groups in attributing failure to external reasons. Similarly, Bell and Schindler (2001/2002) examined attributions for general academic achievement in 270 fourth, fifth, and sixth graders; children identified as gifted displayed higher internal attributions for academic success.

During the 1990s, researchers began attending more closely to attributions directed at success or failure in specific target subjects, most commonly mathematics. Vlahovic-Stetic, Vidovic, and Arambasic (1999) studied 9- and 10-year-old students who were grouped as mathematically gifted achievers ($n = 31$), mathematically gifted underachievers ($n = 31$), and mathematically nongifted ($n = 85$). The mathematically gifted achievers were less likely to attribute success in mathematics to effort than the other two groups. In a discriminant analysis, the mathematically gifted group was identified by lower attributions of success to external factors, among other variables.

The preponderance of research on attributions for academic success among K–12 students identified as gifted indicates strong internal causal attributions within this population. In a review, Dai, Moon, and Feldhusen (1998) concluded that high-ability students tend to attribute success to ability and to effort. Studies investigating attributions among university-aged students are notably absent in the refereed literature.

Purpose of Study

The literature review reveals a mixture of theories regarding general versus domain-specific abilities and age-related effects that predict foreign language acquisition (e.g., Bley-Vroman, 1988; Lehmann et al., 2002; Sparks & Ganschow, 2001). However, studies examining the relationship of ability to successes and failures in foreign language learning among university students are rare (Ganschow et al., 1991; Scott et al., 2009). We have been unable to locate studies investigating foreign language learning specifically among university students previously identified as gifted.

Affective dimensions, especially motivational aspects such as attitudes and attributions for second language learning, have been investigated to some degree. We specifically note efforts to investigate the effects of previous experiences in foreign language classes on attitudes on second language learning (Scott et al., 2009; Sparks et al., 1993). Research on attributions toward general success and failure, as well as attributions toward academic success among students who are gifted, have predominantly confirmed stronger tendencies toward internal beliefs (ability, effort) than external beliefs (see review by Dai et al., 1998). However, as in the topic of attitudes, research among university students previously identified as gifted is sparse.

With the intent to specifically study the aptitudes, attitudes, and attributions that predict success in learning a second language among university undergraduates identified as gifted, we devised the current study. The purpose of our study was to investigate these variables among students identified as gifted compared to their nongifted peers. Research studies based on experiences of postsecondary students who were identified as gifted in their elementary and high school years are uncommon and much needed (Rinn & Plucker, 2004). Furthermore, although current discussions about gifted education often center on the hypothetical advantages of early intervention for students who are gifted in order to ensure long-term success and optimal development (Pfeiffer, 2002), very little follow-up data exist regarding

university-level achievement. Investigations of the characteristics and behavioral successes, or failures, of gifted students in post-secondary settings have the advantage of informing educators about attitudes and aptitudes of this population as they continue their education. These results may guide future research efforts to evaluate the long-term positive influences of early services for students who are gifted. Additionally, results may help determine strengths and challenges that predict foreign language success and failures for these university students.

Method

Participants

Participants were 95 university students enrolled in five introductory Spanish classes at a large Southeastern public university. The university is designated as a high research intensive university using the Carnegie classification system. Forty-five students were female (47%); 50 were male (53%). Seventy-nine (83%) were between the ages of 18 and 25, and only 3 participants (3%) listed their ages as above the age of 40. Participants varied according to classification, with 1 freshman, 16 sophomores, 36 juniors, and 39 seniors. Three participants were graduate students.

Twenty-five students indicated they had been identified as intellectually gifted and had received services for giftedness during their kindergarten through grade 12 school years. Thirty-seven participants listed their majors in the humanities, 22 in math or science, 5 in education, 2 in fine arts, and 29 listed their majors as other (unspecified). The percentage of gifted students was similar across the majors; $\chi^2(3, N = 22) = 6.36, p > .05$. These reflected the distribution of majors in the university at large and were distributed relatively evenly across the five sections of the Spanish classes; class size ranged from 14 to 23 students. The percentage of humanities majors ranged from 33% to 52% across sections; the percentage of math/science majors ranged from 7% to 29%; education majors

ranged from 0% to 14%; fine arts majors ranged from 0% to 6%; and “other” majors ranged from 21% to 43%.

Instruments

Modern Language Aptitude Test (MLAT). We administered the Short Form of the MLAT (Carroll & Sapon, 1959, 2002) as a measure of foreign language aptitude. Of the five subtests on the MLAT, the last three are included in the Short Form: Part III—Spelling Clues (English vocabulary, sound-symbol association ability); Part IV—Words in Sentences (grammatical structure); and Part V—Paired Associates (rote memory). The MLAT was developed to predict students’ ability to acquire a second language. Several researchers have found positive relationships between MLAT performance and foreign language learning (e.g., Sparks et al., 1998; Sparks, Patton, Ganschow, Humbach, & Javorsky, 2006). Although the norms of the MLAT are dated, Sparks and Ganschow (2001) recommended use of the MLAT as a valuable predictor of foreign language aptitude. In a study examining several variables in 1,000 adult students at the Foreign Service Institute, the MLAT proved the best of several potential predictors of language learning success (Ehrman, 1994). Further, the MLAT Short Form (specifically Parts III, IV, and V) proved to be the strongest predictor of foreign language learning success. Because the normative information for the MLAT is dated, we used raw scores in our data analyses, consistent with recommendations by Sparks and Ganschow (2001). Of note, both distributions were slightly positively skewed (gifted, 1.12; nongifted, .65). As expected, given the difference between the means, the distribution for the gifted sample was more leptokurtic (2.29) relative to the nongifted sample (-.47). The variance estimates for the two distributions were not statistically significantly different (Levene’s $F = .004, p > .05$).

Foreign Language Attitudes and Perceptions Survey-College (FLAPS-C). We used eight items from the original Foreign Language Attitudes and Perceptions Survey-College (Sparks et al., 1993) to measure attitudes about foreign language

learning, (i.e., perceived ease in learning vocabulary, spelling, grammar, conversational language, writing, translating, listening, reading, and difficulty relative to other subjects). The items are approximately balanced in terms of positive and negative statements and are rated using a Likert-type format indicating either levels of difficulty or agreement. For the purpose of obtaining a total FLAPS-C score, we recoded the items to fall in the same direction, with higher scores indicating more positive attitudes toward foreign language learning. For this sample, the eight item scale yielded an alpha coefficient of .84. Results of a principal components factor analysis support the structure of the scale; in fact, all eight items loaded significantly on a single factor (loadings ranged from .45 to .80). Additional evidence of psychometric adequacy of the FLAPS for university students is reported in Bell et al. (2009).

College Academic Attribution Scale-Abbreviated Foreign Language Version (CAAS-FL). To measure attributions (see Rotter, 1966; Weiner, 1986), we used a modified version of the College Academic Attribution Scale (CAAS), developed by Williams and Clark (2002) and modeled after two scales, the Student Academic Attribution Scale (Bell & McCallum, 1995) and the Sydney Attribution Scale (Marsh, 1984). The modified scale contains 10 items evaluating positive academic outcomes related to success on various aspects of foreign language learning, including vocabulary, translation, homework assignments, verb tenses, in-class oral responses, group assignments, note-taking, writing assignments, and grade improvement. Each item is positively stated and followed by four outcome choices representing ability, effort, context (i.e., teacher impact), and chance or luck. For instance, the item “I make a high grade on a foreign language test” is followed by four choices: (a) “I studied hard for the test,” (b) “The teacher prepared me well for the test,” (c) “I was fortunate to make a high grade,” and (d) “I am good at taking vocabulary tests.” Respondents rated each choice on a scale representing *often*, *sometimes*, or *seldom*. Each response category was rated independently to avoid forced-choice ratings that may rep-

resent artificial dichotomies and because success is likely attributable to more than one cause.

For the current sample, internal consistency reliability was calculated for each of the four scales: Ability, $\alpha = .80$; Effort, $\alpha = .84$; Teacher Impact, $\alpha = .85$; and Chance $\alpha = .90$. These reliability measures are similar to those reported by Williams and Clark (2002), who reported alphas of .64 for Ability, .88 for Effort, .80 for Teacher Impact, and .91 for Chance. In addition, a factor analysis (principal components, varimax rotation) yielded support for the four factor structure (Ability, Effort, Teacher Impact, and Chance). Each item loaded on the appropriate factor (i.e., item loadings ranged from .36 to .81). Only two items loaded (i.e., greater than .35) on a second factor, and in each case the loading was lower than on the expected factor.

Procedure and Data Analyses

Three graduate students trained in school psychology administered the three subtests of the MLAT, a brief demographic questionnaire, the eight FLAPS-C attitude items, and the 10-item version of the CAAS-FL to students enrolled in five sections of introductory Spanish courses during the 2008 spring semester. The tests were administered in counterbalanced order within the first week of classes. Procedures conformed to guidelines for the rights of human subjects as required by the university. Midterm and final exam grades collected from instructors were combined to make a composite score, labeled Combined Exam score. We used Combined Exam scores instead of final course grades based on recommendations by the university's foreign language coordinator. Overall grades were not considered as strong an indicator of foreign language acquisition and skills because instructors gave different weights to course components such as homework or attendance. However, exams were the same across courses.

Comparisons between gifted and nongifted groups were evaluated via a multivariate analysis of variance (MANOVA). Because a high score on the FLAPS-C is indicative of nega-

tive attitudes, the items were reverse-scored for the MANOVA comparisons.

Results

Means and standard deviations of the dependent variables are presented in Table 1. Correlations (shown in Table 2) between the dependent variables ranged in absolute value from .001 (MLAT Short Form and CAAS-FL Context) to .66 (Ability attributions and FLAPS-C score) and are consistent with expectations based on the literature. Results of the MANOVA indicated a statistically significant effect (Wilk's Lambda = .79; $F_{(7, 72)} = 2.72$; $p < .05$). Consequently, follow-up ANOVAs were conducted for the seven dependent variables; three of these were statistically significant. Gifted students earned significantly higher mean scores than their nongifted peers on the MLAT Short Form ($F_{[1, 78]} = 11.77$, $p < .001$; Cohen's $d = .86$) and on Combined Exam grades ($F_{[1, 78]} = 5.15$, $p < .05$; Cohen's $d = .51$). Gifted students earned a significantly higher mean score on the FLAPS-C when scores were reversed for analysis ($F_{[1, 7]} = 6.17$, $p < .05$; Cohen's $d = .64$). None of the four attribution mean scores differed at statistically significant levels for the two groups.

The range of potential exam scores was 0 to 200; the actual range was 99 to 200. To ensure that differences in exam scores were not influenced by differences in instruction or class composition, two ANOVAs were conducted. Results revealed no statistically significant differences in mean Combined Exam scores across the five classes ($p = .14$) nor across the various majors ($p = .14$). Further, a t test indicated no differences in means based on gender ($p > .05$).

Discussion

As predicted, there were differences in the aptitudes, attitudes, and achievement of postsecondary introductory Spanish

Table 1

Means and Standard Deviations on the MLAT Short Form^a, FLAPS-C^b, CAAS-FL^c, and Combined Exam Grade Based on MANOVA Descriptive Data (Gifted N = 19; Nongifted N = 69)

Instruments	Gifted Group Mean (SD)	Nongifted Group Mean (SD)	Cohen's <i>d</i>
MLAT Short Form ^a	53.79 (11.16)	45.07 (9.19)	.86
FLAPS-C ^b	20.37 (5.43)	16.90 (5.28)	.64
CAAS-FL ^c			
Ability ^d	19.63 (4.49)	18.14 (3.77)	
Effort	23.47 (3.98)	25.21 (3.96)	.51
Teacher Input ^d	23.32 (3.45)	24.26 (3.78)	
Chance ^d	17.68 (5.80)	18.05 (4.72)	
Combined Exam Grade	168.65 (26.42)	154.61 (22.62)	.51

Note. ^a Modern Language Aptitude Test. ^b Foreign Language Attitudes and Perceptions Survey- College. ^c College Academic Attribution Scale-Abbreviated Foreign Language Version. ^d Difference between means not significant.

students who had been identified as gifted and their nongifted peers. We did not, however, find differences between the students who were gifted and their nongifted peers on any of the four attribution subscales.

Gifted students had higher scores than nongifted students on the aptitude scale, the MLAT Short Form. Our results offer general support for Sparks and Ganschow's (2001) proposed Linguistic Coding Differences Hypothesis, suggesting that strengths in phonological, orthographic, and syntactic abilities make learning foreign language easier.

On the attitude scale (FLAPS-C), the gifted group displayed a more positive attitude toward learning a foreign language than the nongifted group. We believe these results have implications related to both the specific domain of foreign language learning and to general attitudes toward academic learning. Within the specific domain, critics taking a sociocognitive approach toward foreign language acquisition have suggested that by focusing on students' learning primarily via verbal exchanges, we neglect important aspects of foreign language acquisition that include

Table 2
Correlations Among Scores on the Modern Language Ability Test Short Form, Combined Exam Grade, Foreign Language Attitudes and Perceptions Survey-College, and College Academic Attributions Scale-Abbreviated Foreign Language Version

		Combined Exam Grade	CAAS-FL Ability	CAAS-FL Effort	CAAS-FL Context	CAAS-FL Luck	FLAPS 8 Items
MLAT Short Form Total	Pearson's <i>r</i>	.31**	-.01	-.16	-.001	-.08	.12
	<i>N</i>	86	81	83	83	82	83
Combined Exam Grade	Pearson's <i>r</i>		.15	-.08	.06	-.24*	.29**
	<i>N</i>		85	87	87	86	87
CAAS-FL Ability	Pearson's <i>r</i>			.10	.18	-.05	.66**
	<i>N</i>			85	85	84	85
CAAS-FL Effort	Pearson's <i>r</i>				.54**	-.10	.18
	<i>N</i>				87	86	87
CAAS-FL Context	Pearson's <i>r</i>					-.01	.01
	<i>N</i>					87	87
CAAS-FL Luck	Pearson's <i>r</i>						.13
	<i>N</i>						86

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

the many modes traditionally involved in language learning. These include listening, reading, writing, and thinking within social contexts (e.g., Harklau, 2002; Kern & Schultz, 2005). The FLAPS-C addressed attitudes toward these multiple modes, asking students to evaluate their self-perceptions of the difficulties of learning a foreign language through several activities: vocabulary and spelling, grammar, conversational language, writing, translating, understanding spoken language, reading, and difficulty relative to other subjects. We found a relationship between higher achievement in foreign language acquisition and attitudes across various modes. However, the scores we obtained were global scores. Further research, based on an extended attitudes scale, may help delineate the areas of modal interaction favored by students who excel in learning a foreign language. For instance, do students who perceive learning a foreign language to be relatively easy view reading and writing tasks to be easier or more difficult than spoken language tasks?

Much has been written in professional journals and books about the importance of attitude and motivation in learning a foreign language. For instance, Gardner (1985) and Dornyei (1994) have offered social-psychological models that feature students' motivation and attitudes when learning a foreign language. Additionally, the relationships between attitudes and foreign language learning have been repeatedly studied and reported. Masgoret and Gardner (2003) offered a meta-analysis that incorporated only the studies by Gardner and colleagues on the roles of attitude, motivation, and orientation in learning a second language. This meta-analysis alone cited 75 independent samples that involved more than 10,000 participants. Masgoret and Gardner obtained a mean corrected correlation of .24 between the variables of attitude and achievement measured by grade. The correlation we achieved was .29 between attitude, represented by the FLAPS-C score, and the Combined Exam grade. A correlation of .30 is described as having a medium effect size by Cohen (1988).

Despite the implied potential for effective interventions based on research demonstrating correlations between attitudes and achievement, examples of experimental or quasi-experimental

studies that have investigated interventions focusing on raising attitudes toward learning a foreign language are notably rare in the refereed literature. Mantle-Bromley (1995) reported successful results in implementing an intervention program that was designed to maintain or improve attitudes toward French and Spanish learners, but the outcome variables did not include achievement. Elley (1991) also reported positive effects on attitudes in an intervention program focusing on a technique derived from the whole language approach, but again did not include achievement as an outcome measure. Interventions that report improvements in terms of outcome measures, such as course grades, after attitudes toward foreign language learning have improved are notably missing from the refereed literature. We suggest that researchers interested in improving pedagogy in foreign language might evaluate the contributing effect that improvements in students' attitudes might have toward actual achievement. Models for designing such interventions are available (e.g., Dornyei, 1994; Gardner, 1985).

Based on their performances on the attribution scale (CAAS-FL), the students identified as gifted and their nongifted peers did not differ in their attributions for ability, effort, teacher impact (context), or chance as explanations for their success in foreign language learning. These findings are inconsistent with our prediction that gifted students would make higher internal attributions (ability or effort) for foreign language learning success. Specifically, our results do not support the preponderance of findings from the literature supporting the conclusion that children identified as gifted tend to attribute success primarily to ability (e.g., Bell & Schindler, 2001/2002; Brody & Benbow, 1986; Collier et al., 1987; Engelberg & Evans, 1986; Vlahovic-Stetic et al., 1999).

The particular characteristics of participants in this study may explain our failure to find consistent differences between the two groups for internal attributions for success. First, the university has stringent admission requirements that set the ability range of entering students higher than in a random comparison of students in public school settings. For instance, the entering class of

freshman in Fall 2008 (the semester following our data collection) produced GPA ranges of 3.38 to 3.99 for the 50% of students in the middle range of the class.

Second, participants were enrolled in an introductory-level Spanish course. Given that most high schools require foreign language, it is likely that many of the students enrolled, both gifted and nongifted, had previous exposure to foreign language courses and, based on past experiences, did not view the course lying ahead as particularly difficult. The gifted students, specifically, may have been well within their comfort zones in terms of effort output; their attributions toward effort mimicked those of the mathematically gifted achievers in the study by Vlahovic-Stetic and colleagues (1999).

Third, although proponents of services for gifted children sometimes imply, or clearly state, that there are qualitative differences in students who are gifted that require them to need many special services (see Grant, 2002), some purported differences are most likely represented on a continuum, especially for students who qualify for gifted services based on a matrix of qualifications, which is common in many state department criteria (see Coleman & Gallagher, 1992). Such students may not exhibit the characteristics of highly gifted students and may not be as qualitatively different in general, noncognitive characteristics as proponents of services for students who are gifted would suggest. Additionally, the rigorous demands of advanced courses in general (not specific to foreign language courses) may be a factor in the diminishing rates of attributions favoring ability among students identified as gifted.

The particular population who participated in this study reflects a limitation as generalizability is restricted to similar samples. We note specifically relevant limitations based on our participants' age levels falling past the upper age limit in which, according to Bley-Vroman's (1988) Fundamental Difference Hypothesis, foreign language learners must depend on general mechanisms, such as verbal analytic ability and explicit problem-solving techniques. Other generalizability limitations also exist (e.g., geographic location and setting, enrollment in only one

foreign language course: Spanish). Although some of the instruments used in the study (FLAPS-C, CAAS-FL) are experimental, the psychometric properties of all appear to be adequate.

Implications

We suggest that educators and researchers use the conclusions based on our findings to inform classroom practice and further research. There may be implications for the education of all students gleaned from the learning experience of students identified as gifted. Because students identified as gifted in our study had higher scores on both the aptitude measure and the attitude measure, we assume that they had higher levels of self-efficacy for learning a second language. Could it be that the students who struggle in foreign language classes lack sufficient strengths in native language skills of spelling, vocabulary, sound-symbol association, and/or rote memory, thereby facing a struggle in acquiring a second language and concurrently developing poor attitudes toward learning the new language? Although our findings seem to lead to suggestions for foreign language instructors to increase their focus on developing positive attitudes in all students, and on developing greater knowledge about native language skills (in this case, English) to enhance foreign language learning, research investigating the efficacy of such instruction is notably lacking. Therefore, studies investigating both of these areas would be welcome.

Expending the necessary time to clarify, review, and compare salient elements of the native language and new language, including spelling rules and grammar structures, might help increase self-efficacy in foreign language learning. For example, an instructor might explain that Spanish verb conjugation determines pronouns. In the emphatic phrasing, “No tengo nada (I don’t have anything)” the pronoun “I” is clearly present, but unstated. But to understand that explanation, the learner needs to understand grammar terminology. In our language studies, we have observed that English grammar is both much simpler

and more idiosyncratic than major Latin, Greek, or Teutonic derived languages (e.g., Spanish, Russian, German). From this observation, we note that English speakers in particular can most easily speak and write correctly without understanding grammar terminology. Thus, it may be that foreign language teachers often inadvertently bear the task of being the first or *first effective* English grammar teachers for many English speakers learning second languages.

Our current findings suggest the importance of self-efficacy in foreign language learning, lending support to a more student-centered versus curriculum-centered approach for improving self-efficacy in foreign language learning. Cochran, McCallum, and Bell (in press) found support for the value of foreign language attitude in achievement, as other researchers have supported the importance of such elements of motivation in education (Pintrich & Schunk, 2002). As reflected in the current study, attitudes toward foreign language learning and successful course completion were significantly higher for the group identified as gifted; the students who were gifted likely benefited from previous successes in foreign language learning at the high school level. We recommend increased efforts at starting and pacing all learners or learner groups at task levels in which they can build confidence through challenge, balanced with continued success. Such an emphasis may be more time consuming in the short run, but yield greater success in the long run, especially greater learner perseverance, a common challenge for foreign language educators (Graham, 2004).

In addition, because positive attitudes seem to be related to higher performance (see Masgoret & Gardner, 2003), instructors are urged to include immersion experiences that serve to increase learners' appreciation for the culture, history, and general appeal of the second language. Such immersion experiences are frequently advocated by authors endorsing a sociocultural approach, versus a psycholinguistic approach, to second language acquisition (e.g., Gebhard, 1999; Norton & Toohey, 2001). The immersion concept is not new but remains an important, possibly indispensable, element in foreign language learning. Caldwell (2007) suggests

that students in intermediate language classes might benefit by participating in service-learning activities that afford the students the opportunities to interact with individuals in the community who speak the target language. Additionally, university instructors should encourage students to participate in enrichment activities, such as regional ethnic celebrations or festivals and, if possible, to plan for travel to target countries, reinforcing the worldwide initiatives that are currently promoted across many universities' campuses. Such exposure might improve attitudes toward foreign language learning, thereby improving performance and preparing students for contemporary involvement in the new "flat world" recently described by Friedman (2007).

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