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Transfer and Generalizability of Foreign Language Learning

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**United States Army Research Institute
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14. ABSTRACT (<i>Maximum 200 words</i>): Knowing a foreign language provides an advantage for understanding, working in, and building relationships with a particular language community. However, military personnel can expect to encounter multiple languages in their operational experiences over a career. Thus, it is important to understand what impact learning a foreign language has beyond its applications with a specific population. This report reviews research on the extent to which foreign language proficiency facilitates further language and cultural learning. Empirical research shows relationships among language learning and intercultural and language-related outcomes, but evidence for a direct causal contribution is lacking. In children, knowing a second language develops metalinguistic awareness, which can contribute to further language learning. However, other factors limit the degree of proficiency that can be expected. Evidence of benefits for cross-cultural attitudes and behavior is similarly scarce. The likely impact of language education and training on adults is therefore unknown, particularly for personnel who lack intrinsic motivation or language aptitude, or who hold negative attitudes about the language community. General characteristics such as intercultural sensitivity and interpersonal skills have been shown to contribute more to outcomes than do language skills. Evidence is currently insufficient to view language as the cornerstone of cultural capability.					
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**Transfer and Generalizability
of Foreign Language Learning**

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FOREWORD

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is the Army's lead laboratory conducting research, development, and analysis on training, leader development, and Soldier issues. ARI's focus is the human element in the Army. Within its mission, ARI conducts analyses to address short-term issues and respond to emerging topics as requested by Army leaders or organizations.

The Cultural Understanding and Language Proficiency (CULP) research analysis was conducted in response to a request from the U. S. Army Training and Doctrine Command (TRADOC), carried out under a memorandum for record between the Director of Center for Army Leadership, Combined Arms Center, and the Chief of the Fort Leavenworth Research Unit (FLRU), ARI. The goal of this effort was to provide a scientific research perspective on the topic of increasing linguistic and cultural capability in the Army.

The CULP analysis had three objectives: 1) to identify the knowledge of culture and identity needed by Army leaders, 2) to identify measures and predictors of effective performance in cross-cultural settings, and 3) to determine the extent to which proficiency in a foreign language provides transferable skills. This report addresses the third objective – the extent to which knowing a foreign language provides transfer and generalizability to other language and cultural learning.

EXECUTIVE SUMMARY

Research Requirement:

Recent and ongoing military operations have required Army leaders and Soldiers to interact with and influence people from diverse regions and cultures. Language skills, regional expertise, and cross-cultural competence are increasingly critical to the success of Army leaders and must be developed over a Soldier's career through education, experience, and training. Prioritizing which language and cultural skills to emphasize and develop requires an understanding of the relationships among these different aspects of cultural capability. This report examines the extent to which learning a foreign language provides transferable, generalizable skills for further language learning and for learning about and operating within foreign cultures.

Procedure:

This report provides an overview of empirical and theoretical research on the transferable benefits of foreign language learning. Although time constraints did not allow for a comprehensive review of literature from all the relevant disciplines for the present analysis, this report synthesizes empirical findings and identifies common themes from applied linguistics, foreign language instruction, intercultural communication, international management, cognitive development, and social psychology.

Findings:

Research has demonstrated links among foreign language proficiency, further language learning, and intercultural adjustment and cross-cultural competence. However, empirical research offers very little to support causal conclusions regarding the impact of knowing a foreign language. Knowing a second or foreign language has benefits for further language learning, but these benefits are demonstrated primarily in children and are constrained by other variables, such as proficiency levels and learner motivation. Evidence for the effect of language in building a culture-general capability is even more limited. Though language is beneficial for communicating in a particular region or country, its contribution is outweighed by other factors, like attitudes and interpersonal skills. Attitudes and motivation emerged as particularly important in building both language and cultural understanding. These characteristics represent targets of opportunity for cultural education and training and should be the focus of further research.

Utilization and Dissemination of Findings:

Findings from this analysis inform the Army of the research foundation for increasing linguistic and cultural capability in Soldiers and leaders. This research can be used in further identifying and prioritizing learning domains for cultural education, training, and leader development. The current findings also help to highlight research gaps in understanding the relationships among language learning, regional knowledge, and cross-cultural competence and in understanding the role that motivation plays in building these capabilities.

TRANSFER AND GENERALIZABILITY OF FOREIGN LANGUAGE LEARNING

CONTENTS

TRANSFER AND GENERALIZABILITY OF FOREIGN LANGUAGE LEARNING.....	1
IMPACT ON FURTHER LANGUAGE LEARNING	3
Constraints on language learning and generalizability	4
Proficiency Level.....	4
Age.....	5
Motivation.....	6
IMPACT ON CULTURAL UNDERSTANDING	8
Culture-specific transfer.....	8
Culture-general transfer	10
CONCLUSIONS AND RECOMMENDATIONS	12
REFERENCES	15

LIST OF FIGURES

FIGURE 1. COMPONENTS OF CULTURAL CAPABILITY	2
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Transfer and Generalizability of Foreign Language Learning

One goal of the Defense Language Transformation Roadmap (2005) is to create foundational language and cultural expertise in all military personnel. This goal reflects a recognition that foreign language skills are needed not only by linguists and other specialists, but also by individuals whose branch or occupational specialty has not previously required them. Speaking a foreign language or working effectively with an interpreter are skills that are clearly important for understanding, communicating, and building relationships with the population in one's area of operations.

However, it is difficult to anticipate what languages will be needed by general-purpose forces in the future, in what numbers, and to what level of proficiency. The goals of the Roadmap carry an implicit assumption that knowing a second language is beneficial for more than just the ability to understand and communicate with the people who speak it. The U.S. has a military presence in over one hundred countries, and an individual service member may serve in multiple countries over his or her career, particularly in an era characterized by persistent and smaller-scale conflict than in the past. In addition, many military personnel are assigned to areas where ethnic diversity is common, such as in Afghanistan, and this diversity is reflected in the use of multiple languages or dialects in a single community. Thus, learning a single foreign language does not fill the range of verbal communication needs that Soldiers might have for operational purposes over their career. It is therefore important to understand what impact learning a foreign language has beyond enabling communication with a specific population.

A variety of benefits have been attributed to learning a foreign language. Among these are intellectual and personality development, cultural awareness, respect for other cultures, improved proficiency in one's native language, and a sense of history (Frantz, 1996). In addressing the benefit of foreign language capability for defense purposes, the Quadrennial Defense Review (2006) discussed foreign language in terms of providing increased ability "to work effectively with international partners" (p. 15), "to facilitate the expansion of partner capacity" (p. 23), "to develop a greater understanding of emerging powers" (p. 31), "to understand better the intentions and motivations of potential adversaries" (p. 35), "to further U.S. and partner interests through personal engagement, persuasion, and quiet influence" (p. 89).

A similar assessment is articulated in the Human Dimension concept proposed by the U.S. Army Training and Doctrine Command (2008). In this view, understanding culture is essential to conducting counterinsurgency and other operations successfully. Language is proposed to be a key factor in achieving this capability: "Developing such an understanding will require an increased emphasis on language training and proficiency, the acquisition of which increases socio-cultural awareness" (p. 72).

The view that language learning is the key to cultural understanding seems to be so widely accepted that it is seen as self-evident even in the academic community. Ingram and O'Neill (1999) have documented the persistence of this assumption in the absence of strong empirical support, citing the foreign language curricula and language policies of multiple nations, including Australia, Japan, and the Council of Europe. In a recent report by the National Research Council (2007), a chapter on intercultural competence includes the statement, "Acquiring some competence

in a language is the single most important thing a person can do in order to become aware of the customs and attitudes of another culture” (p. 2-3). Although research citations appear throughout this chapter and the larger report, this statement and similar arguments cite no supporting empirical evidence.

In light of these widespread assumptions about the transfer and generalizability of foreign language learning, this report describes the research evidence for the impact of knowing a foreign language for further language learning and for cultural understanding. This review emphasizes empirical research findings on this topic, aiming to provide a critical analysis of the evidence base for arguments such as those described above. Although time constraints did not allow for a comprehensive review of literature from all the relevant disciplines for the present analysis, this report provides some preliminary answers and indicates some variables to consider when applying the relevant research to a military population.

The framework guiding this analysis divides cultural capability into three interrelated components: language proficiency, regional or culture-specific knowledge, and cross-cultural competence (Abbe, 2008; Abbe, Gulick, & Herman, 2007). Language proficiency and regional knowledge provide the depth needed to operate in a specific foreign culture, whereas cross-cultural competence provides the breadth needed for any intercultural environment. The relationships between language and the other components of cultural capability – culture-specific knowledge and cross-cultural competence – were of primary interest for the present analysis, as well as the extent to which learning a language facilitates learning additional languages. First, the generalizability of knowing a second language for further language learning is addressed. Then, its potential for transfer to cultural understanding and performance in intercultural settings is discussed.

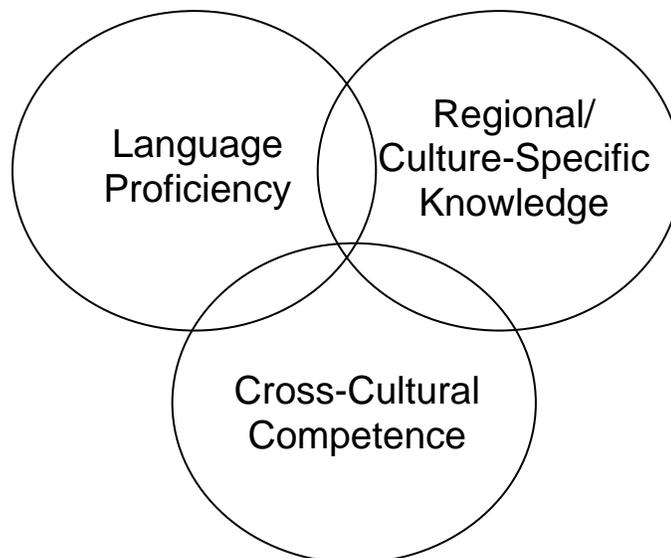


Figure 1. Components of cultural capability

Impact on Further Language Learning

Research on the benefits of knowing more than one language is drawn from two primary sources: the study of childhood bilingualism and, to a lesser extent, the study of adults learning a foreign language. Findings from childhood bilinguals show that knowing a second language facilitates learning of additional languages. Bilingual children learn a third language more readily than monolingual children learn a second, and this advantage has been demonstrated on a variety of language outcome measures. For example, in one study, bilinguals learning English as a third language performed better on tests of reading comprehension than did monolinguals learning English as a second language (Modirkhamene, 2006). Similar findings have been obtained for other aspects of language learning, such as lexical learning (Klein, 1995) and speaking, listening, and vocabulary (Cenoz & Valencia, 1994). Thus, bilingualism appears to be both a consistent and independent contributor to language learning. In a study comparing Spanish speakers to speakers of both Basque and Spanish (Cenoz & Valencia), bilingualism contributed to performance in language learning independent of IQ, age, exposure, and motivation.

Even limited levels of bilingualism can produce benefits. In one study, the degree of bilingualism made no difference for phonological competence in a third language (del Puerto, 2007). Students who had imbalances between proficiency levels in their two languages performed similarly on a test of their acquisition of third-language phonemes (i.e., units of speech) to students with greater balance. In this case, Spanish and Basque speakers with similar levels of proficiency in each had no advantage in learning the speech sounds of English over speakers who were more fluent in one than the other. The benefits of limited bilingualism are especially likely to emerge when the students have received formal instruction in their second language (Eisenstein, 1980). One study showed that children who received classroom instruction in a second language performed better on tests of word awareness than children who did not receive such instruction (Yelland, Pollard, & Mercuri, 1993).

Explanations for the bilingual advantage in language learning have centered on its effects on cognition. Bilinguals and multilinguals have greater metalinguistic awareness, which is the conscious knowledge of linguistic forms and structure, and greater cognitive flexibility (Bialystok & Shapero, 2005; Jessner, 1999). On tasks requiring symbol substitution and perceptual reorganization, bilingual children showed more flexibility and were more responsive to feedback than were monolingual children (Ben-Zeev, 1977). Experimental research has shown that these characteristics contribute to further language learning. In a laboratory task requiring participants to learn an artificial language, multilinguals used a wider variety of strategies than monolinguals and appeared better able to switch among strategies (McLaughlin & Nayak, 1989).

However, some note that these strategies do not always produce noticeable advantages in learning a new language (McLaughlin & Nayak, 1989). Having a set of strategies available does not necessarily result in their application, a conclusion supported by research on university-level learners. One study showed only a weak relationship between metalinguistic knowledge and foreign language proficiency (Alderson, Clapham, & Steel, 1997), leading the authors to conclude that metalinguistic knowledge is an aspect of linguistic ability that is independent from language proficiency. In this study, native English speakers' initial scores on a test of metalinguistic

knowledge showed no relationship with their change in French proficiency over the academic year (Alderson et al.). In contrast, other studies have obtained strong relationships between foreign language performance and metalinguistic knowledge. However, they tested metalinguistic knowledge only of *that same foreign language* (Elder & Manwaring, 2004; Roehr, 2006), and therefore do not directly address the issue of language generalizability.

One possibility is that metalinguistic awareness may contribute to language learning only under certain conditions. For example, the contribution of metalinguistic awareness appears minimal when language study focuses primarily on communication rather than on grammar (Renou, 2001). Furthermore, bilinguals seem not to develop uniformly higher metalinguistic awareness than monolinguals (Bialystok, 2001), but rather only certain aspects of it. Thus, although research suggests there are benefits of learning a second language for building proficiency in a third language, the relationship may be a complex one moderated by a variety of factors.

Constraints on Language Learning and Generalizability

Mixed findings on the role of metalinguistic awareness suggest that previous language acquisition confers benefits for further language learning, but that these benefits do not accrue automatically. This has led some toward more conservative conclusions about the role of bilingualism in third language acquisition (TLA) (Jessner, 1999, 2008). According to Jessner (2008), “The catalytic effect of TLA has mainly been detected in experienced language learners in the case of typologically related languages” (p. 26). Thus, a wider array of variables must be considered beyond the number of languages a particular individual has achieved proficiency in. As noted by Jessner, the relationship between the learner’s second language and the new target language is important (PRC, Inc., 1998). A third language is more easily learned if it shares similarities with the learner’s second language. Other relevant variables are characteristics of the learners themselves. Three variables in particular should be considered in understanding the potential for language learning generalization in a military population: 1) proficiency levels, 2) age of acquisition, and 3) motivational factors.

Proficiency Level

A certain level of proficiency in both one’s native and second language may be necessary before the benefit of bilingualism will emerge (Cummins, 1976). This threshold hypothesis raises the possibility that adult language learners may simply not achieve the proficiency levels needed for the benefits of metalinguistic awareness to accrue. Indeed, some negative effects of language transfer have been observed in learners at lower proficiency levels. In students at the Defense Language Institute Foreign Language Center (DLI), lower proficiency was associated with confusion over differences in grammar between learners’ second and third languages (PRC, Inc., 1998). Thus, learning a few words and phrases in a language may not be sufficient to provide generalizable benefits and may sometimes even interfere with learning another language.

Proficiency in one's native language may also be a consideration. Findings from a study of school-aged children in Spain showed some support for the threshold hypothesis, but also showed that competence in two languages confers no significantly greater advantages over high competence in one language (Lasagabaster, 1998). Instead, there appeared to be small, incremental benefits of each language for which learners achieved high proficiency. The more languages in which one achieves functional proficiency, the greater the benefit for further language learning.

Age

Research on the benefits of knowing a second language comes primarily from samples of childhood bilinguals (e.g., Klein, 1995) and has frequently targeted language learning in the educational context of primary and secondary school (Sanz, 2000; Cenoz & Valencia, 1994). Although some research has addressed the language learning process in adults, it is unclear how readily the findings apply to adult learners pursuing language study for professional reasons who may have very limited opportunities for exposure to naturalistic use of the language.

Adult learners are widely recognized to be less successful in acquiring a second language than are children. Although there appears to be no strict critical period for second language learning (Hakuta, Bialystock, & Wiley, 2003), there is a clear and consistent relationship between age and success in foreign language learning. The older the learner is, the lower the level of achievement in learning a language (Birdsong, 2006; Hakuta et al, 2003). Even when comparing within a sample of adults receiving the same classroom instruction, older adults showed lower levels of proficiency than younger adults (Ehrman & Oxford, 1995). Some research has even demonstrated that the second language is processed differently depending on when the second language was acquired (Lambert, 1985), with different patterns of cerebral lateralization for childhood bilinguals than for bilinguals who acquired their second language in adolescence.

Bley-Vroman (1989) has outlined other differences between adult foreign language learning and childhood language development, which suggest caution is needed when generalizing research from child samples to adult populations. First, Bley-Vroman notes that the degree of success experienced by children is substantially higher than adults. Children generally reach complete mastery of language, whereas adult language learners rarely achieve native competence. Near-native and native-like competence in adult learners has been documented (Birdsong, 2006), but this level of achievement is certainly not the norm in adult foreign language acquisition.

Second, language acquisition in children is much less sensitive to a variety of factors that influence adult language learning (Bley-Vroman, 1989). Adults show substantially more variation in the process of language learning than do children, including in their goals for, the course of, and strategies used for language learning than do children. Adults seem to require, or at least greatly benefit from, explicit instruction in the language, whereas children are able to pick up language implicitly, without formal instruction. Formal instruction can be helpful for children, but is not required for competent communication.

Adult foreign language learning is also influenced by individual differences that are not as influential in children. For example, adult language learning shows relationships with affect and

motivation (Ehrman & Oxford, 1995; Gardner & Lambert, 1972) and cognitive ability (Ehrman & Oxford). The impact of individual differences has been documented at earlier ages as well (c.f., adolescents in Cenoz & Valencia, 1994) but such differences appear to be less constraining for children learning either their native language or a second language than for adults.

Third, adults experience fossilization of language learning that children do not – that is, they frequently plateau at a particular proficiency level (Bley-Vroman, 1989; Han, 2003). Adult learners simply seem to reach a ceiling on their proficiency levels, beyond which they seem unable to advance. The achievement of a “terminal two” proficiency level is an example of this fossilization (Higgs & Clifford, 1982). Bley-Vroman (1989) proposed the fundamental difference hypothesis to explain fossilization, as well as the other differences commonly observed between child and adult language learning. According to this hypothesis, adult foreign language learning relies on different mechanisms than child language acquisition. Adults use their knowledge of their native language and general problem solving strategies, which replace the domain-specific learning used in childhood. This hypothesis suggests that adult language learning must be studied in its own right; findings from childhood bilingualism cannot be assumed to indicate a course of learning for adults.

Motivation

Both the acquisition and the application of knowledge and skills are clearly influenced by the learner’s attitudes and motivation, topics that have received considerable attention in language learning research. As noted above, adults learning a foreign language may have a wide variety of motivations for doing so, which can influence their degree of success. Gardner and Lambert (1959) showed that motivation formed a factor independent from linguistic aptitude, and that both of these variables – cognitive and motivational – are important to learning a foreign language. Of course, the amount or degree of motivation is important to language achievement (Gardner & Lambert), but the *type* of motivation, or underlying goal for language learning, is important as well. Three specific types of motivation have received considerable attention in the literature: integrative, intrinsic, and instrumental.

Integrative motivation reflects an interest in and a desire for acceptance by the community who speaks that language (Gardner & Lambert, 1959). Research has shown that integrative motivation is predictive of higher language proficiency (Gardner & Lambert; Masgoret & Gardner, 2003), particularly for language students at lower levels of proficiency (Lambert, Gardner, Barik, & Tunstall, 1963).

Intrinsic motivation refers to a desire to learn a language for its own sake; the language learning itself is rewarding. One critical aspect of intrinsic motivation is the degree to which the activity is self-initiated (Deci & Ryan, 1985). Although intrinsic motivation does not necessarily encompass attitudes toward the language community, intrinsic and integrative motivation likely overlap, as suggested by correlations between the two (Bonney, Cortina, Smith-Darden, & Fiori, 2008). However, the two types of motivation are differentially predictive of learning strategies. Students high in intrinsic motivation were more likely to report engaging in extracurricular

activities to learn the language, whereas high integrative motivation was linked to collaboration and compensation strategies, strategies in which learners seek out social interactions and other opportunities to practice and receive feedback in using the language (Bonney et al.).

Instrumental motivation (Gardner & Lambert, 1959) refers to the desire to learn a language as a means to achieving some other goal, such as to obtain higher pay or to accomplish a particular job or assignment. This type of motivation is not exclusive of other types, but can co-occur with both integrative and intrinsic motivation. Instrumental (also referred to as extrinsic) motivation is associated with higher language achievement, but tends to show lower correlations with achievement than do integrative and intrinsic motivation (Masgoret & Gardner, 2003). That is, having externally-oriented goals is better for language learning than not having such goals, but not as beneficial as having goals more closely tied to the self-concept, as in intrinsic motivation. Thus, providing financial or other incentives can be helpful in encouraging language learning in military personnel. However, these incentives are unlikely to produce the levels of proficiency attained by individuals who learn out of a desire to communicate with the language community, or who simply enjoy the learning experience for its own sake.

Given the importance of self-initiated goals in theories of language motivation, it is somewhat surprising that research does not report the participants' original reason for studying a language. Research participants are typically students learning a language in a formal educational setting. The degree of self-selection is unclear, but participants may be studying a foreign language to fulfill an academic requirement or may have elected to take a language on their own. In the case of the research reviewed here, it appears that self-selection may be related to the age of participants.

Generally, the older the sample, the more choice the learners have had in pursuing foreign language study. School-aged children and adolescents may be required to learn a particular language, due to its use in the home or community. Adolescents are often required to take a language in secondary school but have some choice in which one. At the university level, studies of college students sometimes report this information but sometimes do not offer enough information to tell (e.g., voluntary summer program in Lambert et al., 1963; not reported in Noels, Pelletier, Clément, & Vallerand, 2003). Adult samples (e.g., Ehrman & Oxford, 1995) tend to self-select for language study, choosing a career path that either requires or offers opportunities for language study.

It is possible that studying a foreign language in the first place, or choosing an occupation that requires a foreign language, is directly related to aptitude and motivation through self-selection. Rather than language training causing generalization or increasing aptitude, the choice to study additional languages may be the product of high aptitude and motivation (Eisenstein, 1980). This is not a factor in childhood bilingualism, for which a second language is either a necessity for communication or is an educational requirement, but remains a relevant concern for adult learners. The presumed benefits of foreign language study may be more a function of the learner's aptitude and motivation than of the language instruction itself. Indeed, in a study of DLI students, the best predictor of language proficiency was aptitude, and neither prior language instruction nor family language background contributed any additional explanatory power (Benton & Siebold, 2002).

In another study of adult language learners, links between language instruction and proficiency emerged in a sample from the Department of State's Foreign Service Institute (Ehrman & Oxford, 1995). The number of languages previously studied was related to students' reading and speaking proficiency, with correlations comparable in magnitude to those for age and education level. Almost half of the students reported having previously studied one or two other languages. In a sample of students at the Defense Language Institute Foreign Language Center, the vast majority of students with the highest Defense Language Aptitude Battery scores had previously studied a language (Siebold, 2002). Such relationships do not reveal whether language study might have increased aptitude, whether aptitude led participants to study a language, or whether the association should be attributed to something altogether different.

Research demonstrating relationships among the pursuit of language instruction, language aptitude, and the subsequent development of third language proficiency does not support inferences about causation. In addition, no one has studied the effects of foreign language study in adults who are assigned to learn a language but who have not demonstrated strong ability or desire to do so. Given the low rates of success in linguists¹, who have relatively high aptitude, a relatively high level of instrumental motivation, and presumably some degree of intrinsic or integrative motivation, addressing motivation in non-linguist personnel will likely be critical.

Impact on Cultural Understanding

Literature on the relationship between foreign language learning and learning about culture has focused more on making foreign language instruction more effective (e.g., Seelye, 1974, 1993) than using foreign language to make cultural learning more effective. Relatively little research has addressed the potential impact of language learning on cultural learning, and there are at least two ways to conceptualize this kind of transfer. The first relates to the degree to which learning a second language provides the capability to learn about and operate in cultures where that language is spoken – culture-specific transfer. For example, to what extent would learning Arabic enable a Soldier to learn about and operate in Iraq? The second is the degree to which learning a foreign language has benefits for learning about and working in a culture where that language is *not* spoken – culture-general transfer. For example, to what extent would learning Arabic enable a Soldier to learn about and operate effectively in China?

Culture-Specific Transfer

Very little research has directly tested the role of foreign language in cultural learning. Thus, empirical evidence is not available to determine whether foreign language actually facilitates learning about the culture(s) where the language is spoken. One researcher tested for shifts in attitudes toward other cultures in a language classroom (Zapata, 2005), although cognitive learning about culture was not addressed. University students in an intermediate Spanish class were given

¹ One-third of first-term linguists do not complete their Defense Language Institute Foreign Language Center (DLI) training (Siebold, 2002). Less than half of first-term linguists both successfully complete their training at DLI and maintain proficiency levels, as measured by scoring high enough on the Defense Language Proficiency Test to receive Foreign Language Proficiency Pay for the required period of time (Hinson, 2005).

an assignment designed to teach about the culture of Argentina. They answered questions about their attitudes about living or visiting a Spanish-speaking country and about other cultures in general both before and after the assignment. The data suggested a trend toward more positive attitudes after the assignment than before, but no tests were performed to determine whether the differences were statistically reliable and no comparison group was included to determine whether any change could be attributed to the language/culture assignment. Thus, the methodology of the study does not support any concrete conclusions regarding the role of the assignment or language classroom in causing attitude change.

In another study, researchers examined the relationship between years of language study and attitudes toward various cultural and ethnic groups (Ingram & O'Neill, 1999). Results showed no indication that students with greater experience in language instruction held more positive cross-cultural attitudes. This study also surveyed the participants' language teachers about their instructional goals. Cultural learning and positive cross-cultural attitudes were rated among teachers' highest priorities. The top three goals endorsed by teachers were communicating with the target language community, learning about the culture of the target language community, and gaining positive attitudes toward that community. These findings suggest that perhaps the instructional methods used in the language classroom were simply not effective in achieving the goals and expectations that instructors held for their students.

Teachers' responses also suggest a perception that communicating with and learning about a language community will be accompanied by positive attitudes toward that community (Ingram & O'Neill, 1999). Students' responses contradict that notion, with more experienced language learners showing slightly more *negative* attitudes toward the target language community and other groups than did less experienced language learners. Although contact with or exposure to another social or ethnic group typically reduces prejudice and hostility (Pettigrew & Tropp, 2006), certain conditions are necessary to benefit from intergroup contact (Allport, 1954; Pettigrew, 1998). Contact with or exposure to the language community will not automatically change attitudes and may result in *increased* prejudice and hostility under certain circumstances (cf. Greenland & Brown, 1999; Stephan & Stephan, 1985).

Relative to research on cross-cultural attitudes, research on intercultural outcomes is less equivocal and confirms that knowing the language is beneficial when living or working in a foreign culture. Meta-analyses have shown that language proficiency predicts general and interaction adjustment in expatriates (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Hechanova, Beehr, & Christiansen, 2003). Language proficiency is also predictive of better job performance (Mol, Born, Willemsen, & Van Der Molen, 2005), although not necessarily an expatriate's adjustment to work (Bhaskar-Shrinivas et al.)². However, though language contributes to intercultural success, other variables show stronger relationships with outcomes. Specifically,

² These meta-analyses synthesize findings from multiple independent studies. Results regarding adjustment were based on 3 to 12 different studies, depending on the type of adjustment measured, with the number of total participants ranging from a low of 370 (general adjustment, Hechanova et al., 2003) to a high of 2,145 (general cultural adjustment, Bhaskar-Shrinivas et al., 2005). Results for job performance are based on 5 studies with a total number of participants of 496 (Mol et al., 2003). Although some studies appeared in unpublished manuscripts and dissertations, the majority were published as journal articles or conference presentations.

the characteristics of cultural sensitivity (Mol et al.) and interpersonal skills (Bhaskar-Shrinivas et al.) are among the strongest and most consistent predictors.

Findings from a sample of Navy personnel stationed in Japan are consistent with this pattern (Yellen & Mumford, 1975). Researchers received nominations from the commands and from peers of individuals who were either notably successful or notably unsuccessful in adjusting to Japan. The unsuccessful adjusters were less likely than the successful adjusters to report knowledge of or interest in learning a language other than English. However, attitudes and personality traits were better at discriminating the successful and unsuccessful adjusters than were biographical variables like language. The contribution of language to success in intercultural settings should therefore be considered in the context of these more general attitudes, skills, and characteristics. Although speaking the local language is helpful, it is not the most important factor.

In addition, as suggested by the pattern of results from meta-analyses, language may be relevant only for certain outcomes. Results from specific studies reveal that the effects of language can be inconsistent and sometimes contradictory in some domains. For example, although one meta-analysis found no effects for work adjustment (Bhaskar-Shrinivas et al., 2005), Takeuchi, Yun, & Russell (2002) found that expatriates' language skills did relate to work adjustment, although not to general or interaction adjustment. Furthermore, in one recent study (Barner-Rasmussen & Björkman, 2007), language contributed to the development of work relationships in a multi-national corporation. Language fluency was related to shared vision and trustworthiness between Chinese and Finnish units. Because the Mol et al. (2005) meta-analysis found that language skills were predictive of job performance, it is possible that language is important for objective work-related outcomes but not consistently relevant for an expatriate's subjective experiences of working abroad.

Research on these subjective outcomes shows that language proficiency is not related to improved personal adjustment, reduced culture shock (Nishida, 1985), or stress response (Redmond & Bunyi, 1993). Higher language proficiency is even sometimes associated with *poorer* personal adjustment (Greenland & Brown, 2005; van Oudenhoven, Mol, & Van der Zee, 2003). Taken with the meta-analytic findings, these results suggest that language proficiency may help facilitate successful work-related outcomes, but may have little positive effect on adjusting to the culture and, more surprisingly, on adjusting to and building interpersonal relationships in the foreign culture.

Culture-General Transfer

For transfer of language learning beyond the specific culture or language community, research shows links but has not established a causal relationship. Some research has tested the relationship of language proficiency with cross-cultural competence – the individual knowledge, skills, and attitudes that enable effective adaptation in any intercultural setting (Abbe, 2008; Abbe, Gulick, & Herman, 2007) – or with other, related constructs. Studies have demonstrated that language study is associated with higher intercultural sensitivity in student samples, as measured by the Intercultural Development Inventory (IDI) (Engle & Engle, 2003; Paige, Jacobs-Cassuto,

Yershova, & DeJaeghere, 2003). Speaking one or more languages other than English (at advanced proficiency) was also associated with greater intercultural sensitivity in a sample of university faculty and staff, although only a relatively small portion of the total sample reported speaking another language (only 10 of 52 participants) (Olson & Kroeger, 2001).

Studies using trait-based measures of cross-cultural competence have yielded similar findings. One study showed that higher language proficiency was related to higher levels of intercultural adjustment potential (Matsumoto et al., 2003). In another study, the Multicultural Personality Questionnaire (MPQ) was used to predict multicultural activity, which included number of languages, international travel, friends from other countries (Van der Zee & van Oudenhoven, 2000). The openness and social initiative subscales of the MPQ predicted higher levels of the composite variable of multicultural activity. However, this study did not isolate the relationship with language specifically nor test whether the relationships held in reverse. Another study showed that speaking a foreign language was related to intercultural effectiveness, although speaking more than one foreign language was not (Herfst, van Oudenhoven, & Timmerman, 2008).

Thus, although studies have shown that cross-cultural competence and foreign language are related, they do not allow for conclusions about the direction of that relationship. Others have been similarly cautious about drawing causal conclusions in this domain (Earley & Ang, 2003, p. 83). The evidence is simply insufficient at present to conclude that language has a causal impact on cultural understanding.

Commonalities between foreign language learning and learning culture may help to explain their relationship; affect and motivation play a central role in both. People who are interested in and curious about other cultures are likely to also have interest in learning and using foreign languages – a point of overlap between cross-cultural competence and language. In a sample of college seniors, interest in foreign travel and in other peoples and traditions loaded onto the same factor with interest in learning foreign languages (Carlson & Widaman, 1988). In another study, positive attitudes toward foreign language study in general, as well as attitudes toward specific languages, showed small associations with world mindedness (Sakuragi, 2006). Positive attitudes toward foreign languages were also associated with higher levels of acceptance of people from other cultures (Sakuragi), as measured by the Social Distance Scale.

Both language and cultural learning draw on an openness toward and curiosity about other populations. Studying a language may help shift these attitudes in a positive direction, but at this point, it is unclear whether language learning contributes to changes in attitude, or whether individuals who choose to study a language simply already hold these attitudes, or are at least predisposed toward them.

Another aspect of this affective intersection relates to the application of one's language skills or cultural knowledge. Motivation concepts from language learning may be useful in understanding this relationship. Integrative motivation is likely as important for culture learning as it is for language learning, but this concept has not been directly tied to cultural learning or intercultural outcomes. Researchers of intercultural communication and adjustment have argued

that language skills must be accompanied by a willingness to communicate and to build relationships in the language community (Dörnyei, 2003; Mendenhall & Oddou, 1985), suggesting the importance of integrative motivation in adjustment outcomes. Motivation to communicate may be partly accounted for by the trait extraversion, although extraversion appears unrelated to learning the skills in the first place (Dwaele & Furnham, 1999). Pursuing these conceptual connections and more explicitly addressing the role of language in expatriate outcomes may be a productive avenue for future research.

In many ways, foreign language proficiency and culture are inextricably linked, as language, regional or culture-specific knowledge, and the culture-general capability provided by cross-cultural competence work together in complementary fashion. For individuals working abroad, the three capabilities must be applied together. Language proficiency is of little use if the interpersonal skills and cultural knowledge needed to apply it in interaction are lacking. However, the fact that all three are applied together is not informative about how these capabilities develop in the first place. For learning and development, research does not provide clear answers on the potential role of language in acquiring cultural knowledge and skills.

Conclusions and Recommendations

The research reviewed here showed relationships between speaking a foreign language and language and cultural learning, but offered little in the way of causal conclusions. Foreign language seems to confer some benefits for generalizability and transfer, but those benefits are limited. Knowing a second language facilitates further language learning for individuals who learned their second language early in life and are motivated to engage with the language communities. In addition, learning a foreign language increases metalinguistic awareness, but this knowledge does not always result in greater language learning. Individuals who have only minimal proficiency in a second language, are older learners, and lack an intrinsic interest in language or the language community will encounter greater challenges in achieving proficiency in a third language.

For language transfer to culture, research shows that language provides small degrees of culture-specific transfer. Individuals who speak a foreign language learn about and adapt more readily to the culture(s) where that language is spoken. Foreign language proficiency is also related to cross-cultural competence, but evidence for a causal relationship is lacking. Some aspects of cross-cultural competence are implicated in successful language learning, particularly in the affective domain. Some have argued that language education *should* contribute to development of cross-cultural competence and have suggested methods for including culture in language instruction (Ashwill, 2004; Seelye, 1974, 1993). However, empirical research has not yet demonstrated that language instruction actually *does* make a causal contribution to the development of cross-cultural competence. In other words, foreign language may be one path to language and cultural learning, but is not the gateway.

Of course, there are reasons to learn and use a foreign language apart from its transfer and generalizability. Its potential for building relationships within a population is very important; a minimal level of proficiency can go a long way in demonstrating respect for the language

community and its culture. In addition, language likely becomes more critical in achieving higher levels of cross-cultural competence and higher levels of regional or culture-specific expertise. There are some aspects of culture that are simply inaccessible without fluency in the language. At the lower levels, however, foreign language appears less central than the quotations and assumptions described in the opening of this report would indicate.

Though the research reviewed here suggests that language instruction provides only limited benefits for transfer and generalizability, it supports the notion that selecting individuals who *already* have a language background may be beneficial. Childhood bilingualism seems to carry a variety of cognitive benefits that facilitate language learning and may also extend to intercultural adaptation. In a related review, Abbe et al. (2007) proposed that cognitive flexibility is one aspect of cross-cultural competence. Studies suggest such flexibility is found in childhood bilinguals (Ben-Zeev, 1977; Bialystok & Shapero, 2005). Childhood bilingualism also continues to confer advantages in adulthood (Bialystok, Craik, & Ryan, 2006). Heritage language speakers may therefore be an asset, not only for their heritage language skills, as utilized in the 09L Interpreter/Translator program, but also for their potential flexibility in language and cultural learning.

Future research should further examine the relationships among the three aspects of cultural capability: foreign language, culture-specific expertise, and cross-cultural competence. The development of these capabilities could likely be enhanced by including all three in a program of education and training, but the research foundations for such a program are currently inadequate. Such research will require a more interdisciplinary approach than has been typical in these topic areas. Greater clarity may come from a more in-depth review of the relevant literature than was possible for the present analysis, as the issue clearly spans multiple disciplines, each with their own concepts and terms. However, further empirical research will be needed to determine what causal relationships may exist among the components of cultural capability.

Some recommendations for education and training can be outlined despite the continuing research gaps. Language instruction can, and often does, build metalinguistic awareness that can contribute to further language learning. Explicitly addressing similarities between languages in the classroom is one useful method (Jessner, 1999). Developing attitudes and motivation toward engaging with culturally different populations is another way to increase the likelihood that learning will transfer. This may be a necessary first step in language or culture learning, as motivation has emerged as an important factor in language proficiency and non-ethnocentric attitudes as an important factor in intercultural interaction. The relevant attitudes do not simply emerge automatically with experience nor necessarily develop along with cognitive learning.

Providing external motivation, in the form of monetary or other incentives, cannot substitute for developing the attitudes and motivation that underlie successful language learning, cultural learning, and intercultural adaptation. Although higher instrumental and extrinsic motivation are associated with intentions to continue language study, intrinsic motivation shows stronger links with these intentions and also correlates with perceived competence where extrinsic motivation does not (Noels et al., 2003). In addition, providing external incentives for learning can sometimes undermine intrinsic motivation (Deci, Koestner, & Ryan, 1999). Because both types of

motivation are linked with achievement (Masgoret & Gardner, 2003), developing intrinsic motivation through education and appealing to extrinsic motivation through incentives or other means may provide the benefits of both.

Consideration of the expected benefits of language and cultural learning as well as the costs of training and education, in terms of expense and personnel time, should guide the weight placed on each. Given the stronger role that culture-general skills have in predicting intercultural outcomes, and the length of time and effort required to achieve functional proficiency in a foreign language, an emphasis on developing language proficiency in general-purpose forces is not an optimal strategy for building culture-general skills. Knowing a foreign language is clearly beneficial for interacting with specific populations and is an essential tool for specialists, but language does not in itself provide the foundation for a broad and self-sustaining cultural capability.

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