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The Boren Awards: A Report of Oral Language Proficiency Gains during Academic Study Abroad

A Cumulative Report over 15 Years and 53 Languages

Leah Mason | Christopher Powers | Seamus Donnelly

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INSTITUTE OF INTERNATIONAL EDUCATION

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2015

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FOREWORD

Nearly 30 years ago, Senator David L. Boren envisioned a program that would provide U.S. undergraduate and graduate students with the opportunity to travel throughout the world to learn languages and cultures Americans rarely study, with the specific purpose of developing articulate, ambitious, and trained internationalists for careers in the federal government. These students would add to our nation's availability to communicate and work effectively with people from around the world. This vision became reality in 1991, with the passage of the David L. Boren National Security Education Act, which created the National Security Education Program (NSEP).

Designed to partner with the educational community to support scholarships, fellowships, and institutional grants, NSEP has evolved over the past two decades, establishing effective relationships with hundreds of academic, governmental, and non-governmental stakeholders at home and abroad. These relationships, in turn, provide opportunities for school-age students, undergraduates, and graduate students to prepare themselves with the skills and experiences necessary to join the increasingly globalized federal workforce. The Institute of International Education is honored to have administered these scholarships and fellowships on behalf of our colleagues at NSEP since the program's inception.

In total, more than 5,000 U.S. students have received Boren Scholarships and Fellowships to study overseas. In exchange for financial support, these students agree to work in qualifying national security positions for at least one year. Thus, NSEP is creating a direct influx of new talent with relevant experience, including significant, tested linguistic and cross-cultural competencies, to fill the gaps our federal workforce is experiencing. For more than 20 years, NSEP has rigorously assessed and published the language proficiency gains of the Boren Scholars and Fellows. Now we are able to demonstrate just how revolutionary the Boren model is, as the award recipients continue to make strong language gains through immersive, long-term study abroad experiences.

Our recent research report, "The Boren Awards: A Report of Oral Language Proficiency Gains during Academic Study Abroad: A Cumulative Report over 15 Years and 53 Languages," shows that there is a statistically significant relationship between the duration of time a student spends learning overseas and their corresponding language gains. Not only does duration affect whether or not a student makes a language gain, but it also affects how much proficiency gain a student is able to make over a specific period of time.

While 60 percent of U.S. students learning abroad go on programs lasting eight weeks or less, according to the *Open Doors® 2014 Report on International Educational Exchange*, NSEP has consistently invested in longer-term study abroad in less studied countries and languages and can now document how that investment has resulted in higher strategic language skills for graduates entering national security fields.

NSEP is a dynamic program, making awards to a dynamic group of students. Boren Awards alumni are among the best and the brightest, our nation's future leaders, and are drawing upon their highly-honed language and culture skills. We are proud to support their study of the languages and cultures most critical to U.S. national security.

Allan E. Goodman
President and CEO
Institute of International Education

INTRODUCTION

In the last decade, a movement to internationalize campuses and curriculum has gained momentum in higher education (American Council on Education, 2012). At the institutional level, internationalization has included strategic efforts to expand and diversify study abroad opportunities for students (Institute of International Education, 2011). According to the *Open Doors® 2014 Report on International Educational Exchange*, the mobility of U.S. students reached a record high in 2012–2013, when 289,408 students studied abroad for academic credit (Farrugia & Bhandari, 2014). The increase in the number of U.S. students studying abroad has been met by an expansion of programs available, especially to nontraditional destinations (Institute of International Education, 2011).

U.S. students who participate in learning opportunities abroad come from various academic majors and, therefore, language study may not be the primary goal for most students (Coleman, 2013). Despite this focus on activities beyond language study, many international educators and the general public carry the assumption that oral proficiency in another language can simply be achieved through study abroad (DeKeyser, 2010; Freed, 1998; Magnan & Back, 2007; Mendelson, 2004). To explore this assumption, research on second language acquisition to document learners' development in languages other than English has focused on various aspects of language acquisition during overseas study.

The research questions guiding this report aim to replicate previous studies on language acquisition in an attempt to uncover the main predictors of language gain in less commonly taught languages during study abroad. The questions address how several factors affect language gain in the study abroad environment: duration abroad; initial oral proficiency; the relationship between initial oral proficiency level and duration abroad; and gender, education level (academic status), academic major, language category of difficulty, and knowledge of other languages. This report explores the language gains made by U.S. undergraduate and graduate students who received a Boren Scholarship or Fellowship for language study overseas between 1996 and 2011. To the authors' knowledge, this report is, in size, the largest presentation of data on oral language proficiency development by U.S. college and university students during study abroad, and, in scope, it represents the greatest number of host countries and languages studied to date.

The David L. Boren National Security Education Act of 1991 created the National Security Education Program and the Boren Awards

> to provide the necessary resources, accountability, and flexibility to meet the national security education needs of the United States, especially as such needs change over time; to increase the quantity, diversity, and quality of the teaching and learning of subjects in the fields of foreign languages, area studies, and other international fields that are critical to the Nation's interests; to produce an increased pool of applicants for work in the departments and agencies of the United States Government with national security responsibilities; to expand, in conjunction with other Federal programs, the international experience, knowledge base, and perspectives on which the United States citizenry, government employees, and leaders rely; and to permit the federal government to advocate the cause of international education. (P.L. 102-183, codified at 50 U.S.C. 1901 et seq)

Since the program awarded its first scholarships and fellowships in 1994, more than 5,000 graduate and undergraduate students have studied critical languages on Boren Awards overseas. In 1996, the Boren Awards began conducting pre- and post-program oral proficiency assessments to measure language learning outcomes. This report represents the first comprehensive report of these language assessments. It

not only augments understanding of the Boren Awards in general but also provides important new insights that expand the body of knowledge in the fields of study abroad and overseas language acquisition.

Highlights of this report include the following:

- Analysis of 2,466 Boren Awardees.
- The average Boren Fellow begins the overseas program with performance consistent with the Intermediate Mid level of oral proficiency on the American Council on the Teaching of Foreign Languages (ACTFL) proficiency scale and demonstrates an Advanced Low level of proficiency at completion of the program, demonstrating a gain of two sublevels.
- The average Boren Scholar begins the overseas program with performance consistent with the Intermediate Low level of oral proficiency on the ACTFL scale and demonstrates an Intermediate High level of proficiency at the completion of the program, demonstrating a gain of two sublevels.
- Among all students who studied abroad for six months or longer, the average language gain was two sublevels on the ACTFL scale, demonstrating that longer study abroad programs benefit language learners of all levels and are critical for those who begin at Intermediate and Advanced levels to achieve advanced levels of proficiency.
- Among all students who start with performance consistent with the Intermediate Low level and study abroad for six months or longer, the average post-program oral proficiency test score is Intermediate High.
- New language learners can gain as many as four sublevels on the ACTFL scale and achieve the Intermediate Low level by studying abroad for three months or fewer, demonstrating the value of short-term programs for students whose initial performance is consistent with low (i.e., No Experience or Novice) proficiency levels.

The basis of these findings are detailed in this report, along with additional analysis regarding length of study, initial proficiency levels, academic levels, gender, and differences among languages.

RECENT RESEARCH

Research on language acquisition and study abroad is multifaceted. It incorporates quantitative and qualitative studies that explore a range of data, from the overarching statistical language gains of large groups of students to case studies of distinctions in discrete areas of language usage among only a few students. Dominated by U.S.-based studies, much of the research in this field has focused on students at the Novice and Intermediate levels in more commonly taught languages such as Spanish, French, and German (DeKeyser, 2010; Kinginger, 2008; Lindseth, 2010; Magnan & Back, 2007; Martinsen, 2008; Mendelson, 2004; Watson, Siska, & Wolfel, 2013). In addition, past research typically has been conducted with small participant samples—often fewer than 30 students—and has evaluated these students after short-term experiences abroad. However, four studies include larger samples and students studying less commonly taught languages.

The largest and most noteworthy studies produced on language gains during study abroad have been conducted by the American Council of Teachers of Russian (ACTR), a division of the American Councils for International Education. These studies focused on variables that might predict language gain (e.g., age, gender, and linguistic background) for students of Russian in three modalities: listening, reading, and speaking. Brecht, Davidson, and Ginsburg (1995) analyzed the language proficiency in various modalities of

658 students of Russian who participated in the four-month ACTR overseas study program. They found that gains in oral proficiency were predicted by the following variables: knowledge of another language, gender (men were more likely than women to make gains), qualifying exam scores in Russian grammar and reading, and initial level of proficiency (i.e., students whose performance is consistent with lower initial levels of proficiency gain more sublevels than those whose performance is consistent with higher initial levels).

Davidson (2010) replicated this study with a sample of 1,881 students of Russian language who participated in two-, four-, and nine-month ACTR programs. His findings regarding initial level of proficiency and control of language structure confirmed those of the 1995 ACTR study. However, he also noted that longer program duration and stronger listening comprehension skills are predictors of higher gains. Davidson did not find gender a predictor of gain in this sample.

The results of these two studies indicate that students who have classroom experience in the target language before going overseas are more likely to make greater oral proficiency gains while abroad than students who do not (Brecht et al., 1995; Davidson, 2010). They represent two solid studies of highly motivated students who self-selected to apply for admission (and then were accepted) to a rigorous program of Russian language instruction overseas.

Vande Berg, Connor-Linton, and Paige (2009) present broader research on the average study abroad student who participates in language learning while overseas. Their three-year study examines the linguistic, intercultural, and disciplinary learning of close to 1,300 students studying abroad from several U.S. universities as well as a comparison group of students enrolled in language courses on U.S. campuses. It is the largest comparative study of domestic-versus-overseas language gains and draws from students of seven languages: Arabic, Chinese, French, German, Japanese, Russian, and Spanish. Vande Berg et al. concluded that the students studying abroad made greater gains than those studying in the United States. Enrolled in various programs, the students abroad gained, on average, one sublevel on the ACTFL proficiency scale. The researchers determined that the variables significant to language gain included duration abroad (i.e., students who studied for more than one semester showed greater gains than those who spent a shorter duration abroad), enrollment in content courses in the target language, and gender (i.e., female students showed greater gains than male students). Finally, students of less commonly taught languages (Arabic, Chinese, Japanese, and Russian) made smaller gains than their peers learning more commonly taught languages (French, German, and Spanish).

In the fourth study, Davidson (2015) compared the language gains made by 1,457 students participating in federally funded programs that focus specifically on language acquisition in 13 less commonly taught languages: National Security Language Initiative for Youth, the Critical Language Scholarship Summer Institutes, and The Language Flagship.[1] He outlined the expected language gains made by students at various levels of proficiency relative to their duration of study overseas and confirmed that U.S. undergraduate students are capable of reaching the Superior level of proficiency through a structured program of study that includes significant exposure to the target language and study overseas. He also concluded that age and gender are not significant predictors of language gain.

[1] The Language Flagship is an initiative sponsored by the National Security Education Program and administered by the Institute of International Education. Established in 2002 as a pilot program at a few colleges and universities, the initiative has grown to include 27 programs in Arabic, Chinese, Hindi-Urdu, Korean, Persian, Portuguese, Russian, Swahili, and Turkish at 21 U.S. institutions. For more details, go to www.thelanguageflagship.org.

The common findings from these four key studies are that most students gain at least one sublevel during a study abroad period of six weeks or longer and students whose initial performance is consistent with lower levels of language proficiency made the largest gains during study abroad (Brecht et al., 1995; Davidson, 2010, 2015; Vande Berg et al., 2009; Watson et al., 2013). These results also reveal that most variables associated with student background (e.g., age, academic status, and major) do not influence language gains.

The findings in past research about the role of gender in language gain during study abroad are conflicting. Brecht et al. (1995) and Vande Berg et al. (2009) found that gender was a predictor of language gain, whereas Davidson (2010, 2015) showed that it is not. Furthermore, the results from Brecht et al. and Vande Berg et al. were contradictory; Brecht et al. showed greater gains for men than for women, and Vande Berg et al. showed greater gains for women than for men. Polanyi (1995) acknowledged that gender differences are real and posited that they may be best explained in the students' own words. Her research on the diaries of students of Russian while abroad confirmed the hypothesis of Brecht et al. that male and female students in Russia have different linguistic experiences depending on their gender.

Critiques by Rees and Klapper (2008) on methodology, emphasized the "underdeveloped" state of research on study abroad and language acquisition. They also noted that most research designs include small samples and that repeated results from statistical data are lacking (p. 102). Until recently, the focus of the U.S. proficiency movement on the early-stages of language learning, has meant that most research focused on initial acquisition (Martin, 2015). Recent trends in the design of research on language acquisition and study abroad have balanced the quantitative data with qualitative data obtained from language contact profiles[2], diaries, audio recordings, surveys, and other samples of student learning to provide more insight into the language-learning process and individual differences associated with it (Davidson & Lekic, 2010; DiSilvo, Donovan, & Malone, 2014; Freed, Segalowitz, & Dewey, 2004).

The Language Flagship uses quantitative and qualitative data to develop an articulated curriculum that engages students in language acquisition to the Superior level through a combination of on-campus study and a capstone year in a structured immersion program overseas. This signature initiative of the National Security Education Program has demonstrated proficiency gains across all modalities (speaking, listening, reading, and writing) (National Security Education Program, 2015). Spring (2012) emphasized the value of integrating language for specific purposes and content-based instruction throughout the Chinese Language Flagship curriculum at Arizona State University. The classroom activities and learning experiences students encounter through the integrated curriculum offer both instructors and students a range of ongoing assessment data that is used to measure a student's linguistic development and allow instructors to provide students with the individualized support they need to reach the goal of Superior level proficiency.

The National Security Education Program has developed additional initiatives based on the lessons learned in managing The Language Flagship and the Boren Awards. Specifically, a Boren–Flagship initiative blends the programs' dual goals of cultivating professional-level language proficiency in high-quality candidates who agree to a federal service requirement. The African Flagship Languages Initiative (AFLI) is a special program of Boren Scholarships and Fellowships designed to improve proficiency outcomes in several targeted African languages. Most AFLI participants begin the program with minimal proficiency and study in the United States and overseas.

[2] Freed, Segalowitz, & Halter (2004) designed the language contact profile (LCP) to document student language use during study abroad. Other researchers have adapted the LCP to meet the needs of their research focus relative to language use.

Data from the Boren Scholarship and Fellowship Awards offer a unique opportunity to conduct a large-scale analysis of language proficiency gains from 2,466 students in more than 50 languages over a 15-year period. As noted earlier, prior research on language gains has focused largely on commonly taught languages, and the few exceptions are those described in the literature review. A comprehensive report on less commonly taught languages that are frequently described as more difficult to learn is essential to enhancing the understanding of second language acquisition for all types of languages. In addition, Boren Award recipients participate in a range of overseas programs of varying lengths, thereby providing additional data relative to the role of program duration in language acquisition.

BACKGROUND

The purpose of this report is to identify variables that predict gains in language learning for Boren Scholarship and Fellowship recipients through the analysis of quantitative assessment data captured before and after a Boren Award funded study abroad experience. It will further review the programmatic goals set forth by the National Security Education Program for the Boren Awards and evaluate if and how these goals have been met. It will present data on predictors of language gain for several less commonly taught languages, including Arabic, Mandarin, and Russian, where relatively little data currently exists, and, following a detailed analysis, discuss possible reasons for the outcomes.

Description of Boren Awards

Funded by the National Security Education Program, David L. Boren Scholarships and Fellowships provide unique funding opportunities for U.S. undergraduate and graduate students to become more proficient in the cultures and languages of world regions critical to U.S. interests, which include Africa, Asia, Central and Eastern Europe, Eurasia, Latin America, and the Middle East.[3] For more than 20 years, Boren Awardees have studied exclusively in nontraditional study abroad locations while their peers overwhelmingly continue to study in Western Europe.

Boren Awards offer students the opportunity to engage in overseas learning experiences that match their interests and language level. All applicants must design and submit an overseas study plan, which might include overseas language study, academic study, research, academic internships, or any combination thereof. As a result, individual student plans range from highly structured intensive language courses to independent research complemented by regular sessions with a language tutor. A distinguishing feature of Boren Award recipients is that they maintain language as a serious component of the overseas study plan.

Boren Awards provide American undergraduate and graduate students with the resources and encouragement they need to acquire skills and experience in areas of the world critical to the future security of the United States. Boren Award recipients have studied a wide range of less commonly taught languages, including Arabic, Hindi, Korean, Persian, and Swahili. In contrast, a report of their peers who study languages on campus indicates that three languages—Spanish, French, and German—have sustained a large majority of student enrollments in languages other than English since data collection began in 1958 (Furman, Goldberg, & Lusin, 2010).

[3] Learn more about the David L. Boren Scholarships and Fellowships at www.borenawards.org.

In 2004, the National Security Education Program initiated a preference for students who proposed to study abroad for six months or longer. This programmatic shift was made with the expectation that proficiency would increase. Since this preference was instituted, the number of recipients who study abroad for more than six months has increased substantially; in recent years, more than 80 percent of Boren Awardees remain overseas for more than six months. Meanwhile, the 2014 Open Doors report states that U.S. students increasingly favor short-term over long-term study abroad options (Farrugia & Bhandari, 2014).

The Boren Awards also seek students who demonstrate an interest in and commitment to government service. This factor, combined with the previously mentioned program priorities, results in an applicant pool of highly motivated students. The rigorous merit review process of recipient selection involves a comprehensive examination of each applicant's academic and linguistic background, quality and design of the language study program, and aspirations for future government service. In this way, Boren Award recipients do not represent the typical profile of a study abroad student but rather one of a motivated student in a highly selective program.

The programmatic goals of the Boren Awards are intended to support the larger purpose of the award—that is, to increase the pool of individuals with expertise in languages and regions critical to U.S. interests for future employment in the federal government. Boren Scholarships and Fellowships are awarded to approximately 250 students each year. To date, more than 5,000 Boren Awardees have studied 125 languages in 125 countries around the world.

Research Questions

The research questions guiding this report aim to replicate previous studies on language acquisition in an attempt to uncover the main predictors of language gain in less commonly taught languages during study abroad. The questions are

1. How does duration abroad affect language gain in the study abroad environment?
2. To what extent does initial oral proficiency level affect language gain in the study abroad environment?
3. How does the relationship between initial oral proficiency level and duration abroad affect language gain in the study abroad environment?
4. To what extent do gender, education level (academic status), academic major, language category of difficulty, and knowledge of other languages affect gain in the study abroad environment?

REPORT DESIGN

Data reflecting the demographic, academic, and linguistic backgrounds of Boren Award recipients have been collected through the application process since the first awards were made in 1994. Evaluation of recipients' proficiency began in 1996 and is required for most recipients before and after program participation.[4] As a result, the Boren Awards is the only national scholarship program of this size to complete externally rated pre- and post- program language proficiency assessments. Because Boren

[4] Boren Award recipients with no experience in the target language are not tested before traveling overseas. When no tester is available in the target language at the time of an award, the testing requirement is waived.

Awards are intended to fund study abroad opportunities that include a language component designed and arranged by the students, the data on Boren Award recipients cover a wide range of languages, countries, programs of study, initial proficiency levels, prior knowledge of languages, and fields of study. Recognizing that the Boren Award preferences include language, country, duration of study, academic major, and commitment to government service, student applicants self-select and are chosen by merit review panels. (General scholarship information and award preferences are outlined in Appendix A: Boren Awards General Information and Preferences.) Language aptitude is not part of the award criteria.

The analysis in this report is based on data from the applications and required assessments of Boren Awardees. The sample consists of data from 2,466 students who were tested between 1996 and March 2012, before and after their study abroad experiences funded by a Boren Award, including students who reported no experience in the target language. All award recipients are U.S. citizens who attended 373 U.S. colleges and universities. Seventy percent of the recipients tested were undergraduate students, and 30 percent were graduate students. Characteristics of students in the data sample are summarized in Table 1.

Table 1: Student Characteristics (*N* = 2,466 students)

Characteristic	*n*	%
Academic Level		
Undergraduate	1,735	70.4%
Graduate	731	29.6%
Gender		
Female	1,308	53.0%
Male	1,158	47.0%
Ethnicity[a]		
American Indian or Alaskan Native	16	0.6%
Asian or Pacific Islander	269	10.9%
Black Non-Hispanic	142	5.8%
Hispanic	105	4.3%
White Non-Hispanic	1,484	60.2%
No Response	450	18.2%

Note. Age data (*n* = 2,040 students) were not available for 426 students (17.3%), of which 418 were Boren Fellows and 8 were Boren Scholars. As a result, data in this category may overrepresent the undergraduate student population. Age range = 17–56 years (mean = 22.0 years, median = 21 years, mode = 20 years).
[a] Ethnicity categories used in this analysis correspond to categories on the Boren Awards application; response to the ethnicity question is optional.

Students studied and were tested in 53 languages during their award years. Arabic, Mandarin, Russian, Japanese, and Spanish comprise nearly 75 percent of the languages tested (Table 2). Roughly 80 percent of the students had studied a language previously, and close to 65 percent of the students had studied the

target language before going overseas.[5] More than 50 percent of students studied a language classified by the Defense Language Institute as Category IV, the most difficult for an adult English speaker to learn.

Students selected programs in 84 countries. Because linguistic gains may be hampered by the ability to speak and use English regularly in the country of study, it should be noted that fewer than five percent of students were studying in countries where English is designated an official language.[6] The potential impact of official languages on language acquisition is not widely known and not analyzed in this report. Furthermore, the role of English as a Lingua Franca, even in countries where English is not an official language, also may influence language learning.

Boren Awards require students to work with their advisors to identify overseas study programs. As a result, the types of programs that students participate in while receiving a Boren Award vary from programs sponsored by their home institution to those offered by third-party providers to direct enrollment in foreign institutions. Therefore, the number of contact hours as well as the intensity and quality of language instruction also varies widely. Similarly, the extracurricular language opportunities and learning interventions vary by program and may or may not include such features as language partners, formal language tutors, and cultural excursions in the target language.

Typically, each student's living situation is organized through his or her overseas program. The options available—which may include homestays, university dormitory rooms, or independent apartments—affect the amount and kind of exposure students have to native speakers, international students, and other Americans outside of the classroom.

Over the past 20 years, the Boren Awards have increasingly placed greater preference on funding students for study periods of six months or longer.[7] The mean duration abroad, 34 weeks, reflects that 66.1 percent of students studied overseas for more than one semester (Table 3). Throughout this report, the defined durations reflect the established preferences for Boren Award applicants: short-term study is defined as 8 weeks or less; medium-term study is defined as 9 to 25 weeks; and long-term study is defined as 26 weeks (equivalent to six months) or longer.

Finally, in addition to all of the factors that directly affect language study abroad, Boren Award recipients share a commitment to government service. As part of their award agreement, all Boren Awardees are required to work for a minimum of one year in the federal government after graduation. It is difficult to say to what extent this factor influences the motivation of recipients to focus on their language study while overseas.

[5] The Boren Awards require serious language study, but previous language study is not a prerequisite because not all of the critical languages that the Boren Awards emphasize are offered on all U.S. campuses.
[6] The countries where Boren Award recipients have studied and English is an official language include India, Kenya, Madagascar, Nigeria, Pakistan, Philippines, Singapore, South Africa, and Uganda. In addition, some recipients have studied in the Hong Kong Special Administrative Region, where English is an official language.
[7] From 1996 to 1998, fewer than 60 percent of students participated in overseas programs lasting six months or longer, whereas between 2009 and 2011, approximately 75 percent of students selected long-term programs of study (i.e., longer than six months).

Table 2: Target Language Studied and Tested (*N* = 2,466 students)

Language	*n*	%	Language	*n*	%
Albanian	4	0.2%	Polish	28	1.1%
Amharic	1	0.0%	Portuguese	136	5.5%
Arabic	573	23.2%	Quechua	1	0.0%
Azerbaijani	1	0.0%	Romanian	8	0.3%
Bahasa Indonesian	28	1.1%	Russian	350	14.2%
Bengali	1	0.0%	Serbian	23	0.9%
Bulgarian	1	0.0%	Sinhala	1	0.0%
Burmese	1	0.0%	Slovak	1	0.0%
Cambodian	1	0.0%	Somali	1	0.0%
Cantonese	4	0.2%	Spanish	197	8.0%
Croatian	8	0.3%	Swahili	88	3.6%
Czech	23	0.9%	Tagalog	1	0.0%
French	5	0.2%	Tajik	2	0.1%
French Creole	1	0.0%	Tamil	1	0.0%
Georgian	3	0.1%	Tatar	1	0.0%
Hebrew	17	0.7%	Thai	33	1.3%
Hindi	52	2.1%	Tibetan	1	0.0%
Hungarian	4	0.2%	Turkish	35	1.4%
Japanese	223	9.0%	Uighur	1	0.0%
Kazakh	2	0.1%	Ukrainian	1	0.0%
Khmer	2	0.1%	Urdu	15	0.6%
Korean	59	2.4%	Uzbek	2	0.1%
Lao	1	0.0%	Vietnamese	28	1.1%
Malay	1	0.0%	Wolof	1	0.0%
Mandarin	475	19.3%	Yoruba	2	0.1%
Nepali	2	0.1%	Zulu	1	0.0%
Persian	14	0.6%			

Table 3: Duration of Study Abroad (*N* = 2,466 students)

Duration[a]	*n*	%
Short (8 weeks or less)	155	6.3%
Medium (9 to 25 weeks)	682	27.7%
Long (26 weeks or more)	1,629	66.1%

[a] Mean = 34.4 weeks; median = 37.1 weeks; mode = 52.0 weeks.

Based on previous studies of language acquisition and study abroad, the following independent variables were identified for inclusion in this analysis:

- Program duration (time overseas, measured in weeks)
- Initial level of proficiency (Pre-program test: ACTFL Oral Proficiency Interview (OPI) score)
- Gender
- Academic level (undergraduate or graduate)
- Academic major
- Language
- Language category of difficulty (Category I, II, III, or IV, according to the amount of time needed for an English speaker to achieve Interagency Language Roundtable Level 3 proficiency)
- Knowledge of other languages (previous formal or informal experience in a language other than English, measured in months)

A multilevel statistical model called the hierarchical linear model was used to analyze the data. This model estimates random effects and is ideal for this data set because the data for participants are structured at more than one level. In this case, participants are nested within programs, programs within countries, and countries within languages. Data were analyzed in two ways: to demonstrate a broad overview of data collected for all languages and to demonstrate differences between individual languages and language groupings (Appendix B: Language Categories of Difficulty).[8]

MEASURING PROFICIENCY GAIN

Student language proficiency scores are evaluated with the ACTFL OPI, a standardized assessment of a speaker's demonstrated ability to use language to accomplish real-life tasks based on the ACTFL Revised Proficiency Guidelines for speaking (American Council on the Teaching of Foreign Languages, 2012).[9] Scores, defined by the ACTFL Proficiency Guidelines, are ordinal variables that represent a holistic measure of student oral language production along a continuum rather than values to be compared with other test takers (Brecht et al., 1993; Davidson, 2007, 2010, 2015).

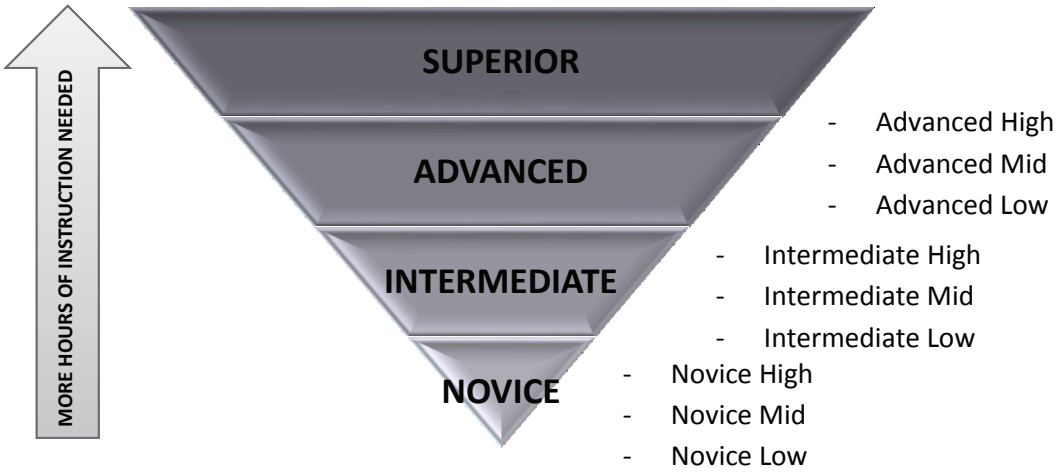
[8] Language categories used in this analysis reflect the four categories of difficulty assigned by the Defense Language Institute (DLI) according to the number of contact hours needed for an adult English speaker to reach a specific proficiency level in the DLI program of study. Category IV languages are considered the most difficult.

[9] The *ACTFL Proficiency Guidelines* and OPI are widely accepted in the field despite concerns about the reliability and validity of their description and measurement of language proficiency for nonnative learners (Liskin-Gasparro, 2003). Liskin-Gasparro outlined four major concerns about the use of the OPI to measure oral proficiency and concluded that these concerns have not held back acceptance of the ACTFL guidelines or the OPI, which are now firmly institutionalized in the field and considered appropriate measures of oral language proficiency by educators, programs, and policy-makers. Byrnes (2012) posits that dominant frameworks associated with communicative language teaching at the start of the proficiency movement (e.g., ACTFL guidelines and OPI) should be expanded to address educational goals for curriculum and the assessment of multiple literacies.

ACTFL-certified testers administer the OPI for the Boren Awards.[10] The proficiency levels (commonly referred to as thresholds) are Novice, Intermediate, Advanced, and Superior. The first three thresholds are divided into Low, Mid, and High sublevels. The inverted pyramid illustrates how the thresholds and sublevels relate to each other on the ACTFL rating scale; as the pyramid widens at the top, the learner must demonstrate the ability to master a greater range of functional ability and global tasks; therefore, more hours of instruction are needed to reach the next threshold (Figure 1). The relationship between levels also implies the ability to perform all functions described at a specific level as well as the functions for all lower levels.

The range of functional ability required to move from one threshold to the next increases substantially as a learner's proficiency moves into the upper ranges. At the lower levels of the pyramid, learners in the Novice threshold largely demonstrate basic language skills that feature memorized "stock phrases" pertinent to everyday topics. Novice communications are brief and predictable, often limited by the learner's vocabulary. In the Intermediate threshold, the learner demonstrates the ability to create language during communication, venturing beyond memorized words and phrases. A learner at the Intermediate-threshold proficiency may be able to manage a simple unscripted situation by asking basic questions and making statements in the present tense. In the Advanced threshold, a learner can create more complex language, addressing a wide range of known and unknown topics; communication includes the ability to respond to unexpected or complex situations with a strong command of vocabulary, sentence structure, and tenses (past, present, and future). Finally, in the Superior threshold, a learner demonstrates a consistent level of accuracy, ease, and fluency in communications that take place in virtually any setting. The Superior-level learner not only creates language about complex topics but also articulates opinions and arguments.

Figure 1: ACTFL Inverted Pyramid Rating Scale



Language proficiency gain is defined as the difference between pre-program and post-program OPI scores (Brecht et al., 1995; Davidson, 2007, 2010, 2015; Magnan & Back, 2007; Watson et al., 2013). Proficiency gains are classified in three groups: null gain (maintain level or decrease), sublevel gain (increased proficiency within a threshold), and threshold gain (increased proficiency to the next threshold). Null gain indicates proficiency maintained at the same sublevel or decreased. A sublevel gain designates movement

[10] The reliability of the OPI as an assessment of oral proficiency has been certified by third-party evaluations. The results of SWA Consulting, Inc. (2012), and Surface and Dierdorff (2003) are consistent, stating that inter-rater agreement was high. This agreement also demonstrates reliability over time.

within a threshold (low to mid, or mid to high). A threshold gain signifies advancement to the next threshold (e.g., from Intermediate High to Advanced Low). Although the height of the ACTFL inverted pyramid does not denote the distance between sublevels, the increasing width demonstrates that sublevel gains are not proportionate and that each sublevel advancement requires a greater amount of time and effort from the learner. Numeric values were assigned to each ACTFL level to allow statistical analysis of OPI results (Appendix C: Numeric Values Assigned to ACTFL Levels for Statistical Analysis).[11]

While the OPI is the only rating of student language proficiency examined in this article, the size of the participant pool and the additional demographic, academic, and linguistic background data of the participants, who have all studied a less commonly taught language abroad, make this report significant.

FINDINGS

The findings of this report confirm many of those from studies on more commonly taught languages, namely, that duration of study abroad and initial proficiency level positively affect language gains and that gender may have an impact on student linguistic gains. Additional findings include the influence of initial proficiency, education level, previous language knowledge, and academic major on language learning overseas. Differences between languages also are discussed.

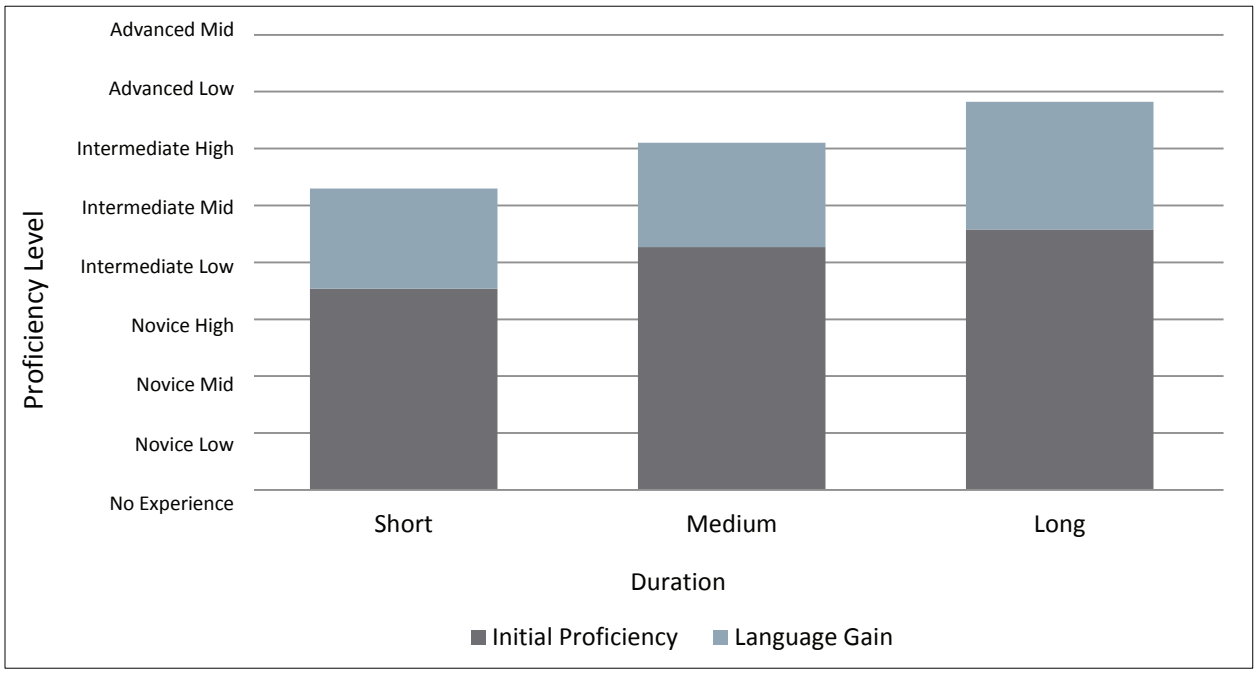
Duration Overseas

The results of this report demonstrate that the relationship between duration and language gain is statistically significant ($B = .03$, $p < .05$). Duration affects not only whether a student makes a language gain but also how much of a gain that student can make over a specific period. Table 4 demonstrates that, on average, students who study abroad longer make greater gains; the mean language gain of all students in all languages rises steadily, and students overseas for six months or more make the greatest gains.

Table 5 shows that more than 80 percent of all students make, at a minimum, one sublevel gain during their overseas experience, regardless of duration. The possibility of achieving gains greater than one sublevel increases substantially with increased duration overseas; among students who gain two sublevels or more, 68.1 percent are long-term study abroad participants, 54.6 percent are medium-term study abroad participants, and 48.3 percent are short-term study abroad participants. This finding also holds true among students at the threshold gain. Approximately 40 percent of short-term study abroad participants make a threshold gain, but more than 60 percent of students who study abroad for more than six months make a threshold gain.

[11] A linear scale understates the accomplishments of students whose performance is consistent with the Advanced and Superior levels because language learning is multidimensional. As a result, several scales have been used to measure gain in statistical analyses research on language proficiency to measure gain. The scales are a necessary convention used for coding purposes and not to model interlanguage development. This report uses the scale used by Brecht et al. (1995) and Davidson (2010).

Table 4: Mean OPI Gain, by Duration of Overseas Study



Note: Short (*N* = 155 students) = 8 weeks or less; Medium (*N* = 682 students) = 9–25 weeks; Long (*N* = 1,629 students) = 26 weeks or more.

Table 5: Change in Oral Proficiency Scores, by Duration of Overseas Study (All Languages)

Change	Short		Medium		Long	
	n	%	*n*	%	*n*	%
Null (Maintain or Decrease)	31	20.0%	139	20.4%	247	15.2%
Increase 1 Sublevel	49	31.6%	171	25.1%	274	16.8%
Increase 2 Sublevels	12	7.7%	43	6.3%	88	5.4%
Increase 1 Threshold	62	40.0%	304	44.6%	896	55.0%
Increase 2 Thresholds	1	0.6%	23	3.4%	123	7.6%
Increase 3 Thresholds	0	0.0%	2	0.3%	1	0.1%

Note. Short (*N* = 155 students) = 8 weeks or less; Medium (*N* = 682 students) = 9–25 weeks; Long (*N* = 1,629 students) = 26 weeks or more.

Initial Proficiency Level

Results of this study indicate that the relationship between initial proficiency level and language gain is statistically significant for all languages ($B = -.48$, $p < .05$). Students whose initial performance is consistent with low proficiency levels make large gains, and students whose initial performance is consistent with higher proficiency levels make moderate gains. Tables 6–8 illustrate the relationships between pre- and post- OPI scores of students who studied overseas for short, medium, and long durations, respectively. Dark green shading indicates positive language gain by one or more sublevels, light

green shading indicates maintenance (no change in proficiency), and yellow shading indicates a loss of language proficiency.

Table 6: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Short-Duration Programs (8 weeks or less), All Languages

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	3 12.5%	6 25.0%	7 29.2%	2 8.3%	4 16.7%	1 4.2%	1 4.2%	0 0.0%	0 0.0%	0 0.0%	24 100.0%
Novice Low	0 0.0%	3 25.0%	4 33.3%	2 16.7%	1 8.3%	2 16.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	12 100.0%
Novice Mid	0 0.0%	1 6.3%	2 12.5%	9 56.3%	4 25.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	16 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	5 33.3%	9 60.0%	1 6.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	15 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	6 16.2%	14 37.8%	11 29.7%	5 13.5%	1 2.7%	0 0.0%	0 0.0%	37 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	10 40.0%	6 24.0%	5 20.0%	3 12.0%	1 4.0%	0 0.0%	25 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 28.6%	2 28.6%	2 28.6%	1 14.3%	0 0.0%	7 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 36.4%	5 45.5%	1 9.1%	1 9.1%	11 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 20.0%	4 80.0%	0 0.0%	5 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	0 0.0%	1 50.0%	2 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	1 100.0%
Total	3 1.9%	10 6.5%	13 8.4%	24 15.5%	42 27.1%	23 14.8%	17 11.0%	13 8.4%	7 4.5%	3 1.9%	155 100.0%

Table 7: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Medium-Duration Programs (9–25 weeks), All Languages

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	6	13	18	22	11	2	9	1	1	2	85
	7.1%	15.3%	21.2%	25.9%	12.9%	2.4%	10.6%	1.2%	1.2%	2.4%	100.0%
Novice Low	1	4	5	13	6	2	1	1	0	0	33
	3.0%	12.1%	15.2%	39.4%	18.2%	6.1%	3.0%	3.0%	0.0%	0.0%	100.0%
Novice Mid	0	2	10	15	12	5	2	1	0	0	47
	0.0%	4.3%	21.3%	31.9%	25.5%	10.6%	4.3%	2.1%	0.0%	0.0%	100.0%
Novice High	1	0	2	17	33	13	4	2	1	0	73
	1.4%	0.0%	2.7%	23.3%	45.2%	17.8%	5.5%	2.7%	1.4%	0.0%	100.0%
Intermediate Low	0	0	0	11	44	36	17	5	0	0	113
	0.0%	0.0%	0.0%	9.7%	38.9%	31.9%	15.0%	4.4%	0.0%	0.0%	100.0%
Intermediate Mid	0	0	1	3	18	42	37	17	6	0	124
	0.0%	0.0%	0.8%	2.4%	14.5%	33.9%	29.8%	13.7%	4.8%	0.0%	100.0%
Intermediate High	0	0	0	0	2	21	17	23	10	0	73
	0.0%	0.0%	0.0%	0.0%	2.7%	28.8%	23.3%	31.5%	13.7%	0.0%	100.0%
Advanced Low	0	0	0	0	0	2	13	30	7	3	55
	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	23.6%	54.5%	12.7%	5.5%	100.0%
Advanced Mid	0	0	0	0	0	0	3	25	15	6	49
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	51.0%	30.6%	12.2%	100.0%
Advanced High	0	0	0	0	0	0	0	4	5	12	21
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	19.0%	23.8%	57.1%	100.0%
Superior	0	0	0	0	0	0	1	0	2	6	9
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%	22.2%	66.7%	100.0%
Total	8	19	36	81	126	123	104	109	47	29	682
	1.2%	2.8%	5.3%	11.9%	18.5%	18.0%	15.2%	16.0%	6.9%	4.3%	100.0%

Table 8: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Long-Duration Programs (26 weeks or more), All Languages

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	2	7	14	22	39	19	14	13	2	1	133
	1.5%	5.3%	10.5%	16.5%	29.3%	14.3%	10.5%	9.8%	1.5%	0.8%	100.0%
Novice Low	1	2	6	9	21	12	4	2	0	0	57
	1.8%	3.5%	10.5%	15.8%	36.8%	21.1%	7.0%	3.5%	0.0%	0.0%	100.0%
Novice Mid	1	1	13	27	47	23	12	10	3	0	137
	0.7%	0.7%	9.5%	19.7%	34.3%	16.8%	8.8%	7.3%	2.2%	0.0%	100.0%
Novice High	0	0	5	24	65	52	30	17	7	0	200
	0.0%	0.0%	2.5%	12.0%	32.5%	26.0%	15.0%	8.5%	3.5%	0.0%	100.0%
Intermediate Low	0	0	0	8	63	59	66	48	7	0	251
	0.0%	0.0%	0.0%	3.2%	25.1%	23.5%	26.3%	19.1%	2.8%	0.0%	100.0%
Intermediate Mid	0	0	0	2	33	75	91	66	19	3	289
	0.0%	0.0%	0.0%	0.7%	11.4%	26.0%	31.5%	22.8%	6.6%	1.0%	100.0%
Intermediate High	0	0	0	0	2	17	67	78	41	6	211
	0.0%	0.0%	0.0%	0.0%	0.9%	8.1%	31.8%	37.0%	19.4%	2.8%	100.0%
Advanced Low	0	0	0	0	0	6	27	57	29	11	130
	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	20.8%	43.8%	22.3%	8.5%	100.0%
Advanced Mid	0	0	0	0	0	1	4	51	50	23	129
	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	3.1%	39.5%	38.8%	17.8%	100.0%
Advanced High	0	0	0	0	0	0	2	4	30	19	55
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	7.3%	54.5%	34.5%	100.0%
Superior	0	0	0	0	0	0	0	0	3	34	37
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.1%	91.9%	100.0%
Total	4	10	38	92	270	264	317	346	191	97	1629
	0.2%	0.6%	2.3%	5.6%	16.6%	16.2%	19.5%	21.2%	11.7%	6.0%	100.0%

Initial Proficiency Level and Duration Overseas

The report results show a statistically significant relationship between initial proficiency level and duration overseas ($B = -.01$, $p < .05$). Students whose initial performance is consistent with a lower proficiency level made significant gains during short-term programs and students whose initial performance is consistent with higher proficiency levels required longer durations overseas to make similar gains, which is in agreement with previous research (Brecht et al., 1995; Davidson, 2010; Vande Berg et al., 2009; Watson et al., 2013). This finding also follows the theory illustrated by the ACTFL inverted pyramid rating scale, which is that less time is needed at lower levels to achieve positive language gains (Figure 1).

Low Initial Proficiency Levels and Short-Term Study Abroad

For students whose initial performance is consistent with a lower level of proficiency in the target language (i.e., No Experience or Novice), a short duration overseas can influence language gains by several sublevels (Table 9). For all languages, students with no previous experience learning the target language and students whose initial performance is consistent with Novice Mid ratings are likely able to gain three sublevels (i.e., reaching the Novice High or Intermediate Mid level, respectively) in as short a duration as six weeks overseas.

Table 9: Language Gains Associated with Short-Term Study Abroad (*N* = 1,187 students)

	Initial Proficiency Level			
Duration	No Experience (*n*= 235)	Novice Mid (*n* = 188)	Intermediate Low (*n* = 368)	Intermediate Mid (*n* = 396)
6 weeks	3.79 (NH)	3.12 (IM)	2.11 (IH)	1.77 (IH)
16 weeks	4.38 (IL)	3.61 (IM)	2.45 (IH)	2.07 (AL)

Note. Post-test score is given in parentheses. NH = Novice High, IL = Intermediate Low, IM= Intermediate Mid, IH = Intermediate High, AL = Advanced Low.

High Initial Proficiency Levels and Short-Term Study Abroad

For students whose initial performance is consistent with the Intermediate levels of proficiency, short-term study abroad results in only a minimal language gain of roughly two sublevels. After 16 weeks of study overseas, a student whose initial performance is consistent with the Intermediate Mid level is likely to gain two sublevels, reaching the Advanced Low level (Table 9).

Low Initial Proficiency Levels and Long-Term Study Abroad

Study abroad for more than six months up to a full calendar year has the greatest impact on language gains for students at all initial proficiency levels (Table 10). After a full calendar year overseas, students whose initial performance is consistent with a Novice or Intermediate proficiency level are able to make a threshold gain and reach Advanced proficiency levels. Students with no prior experience in the target language are likely able to make a threshold gain and reach the Intermediate Low level after 26 weeks. Students whose initial performance is consistent with the Novice Mid level also is likely able to make a threshold gain and reach the Intermediate High level after 26 weeks; this same student is likely able to

increase proficiency by an additional threshold and reach the Advanced Low level by remaining overseas for the full calendar year.

Table 10: Language Gains Associated with Long-Term Study Abroad (*N* = 1,187 students)

	Initial Proficiency Level			
Duration	No Experience (*n* = 235)	Novice Mid (*n* = 188)	Intermediate Low (*n* = 368)	Intermediate Mid (*n* = 396)
26 weeks	4.98 (IL)	4.10 (IH)	2.79 (IH)	2.36 (AL)
52 weeks	6.52 (IH)	5.39 (AL)	3.69 (AL)	3.12 (AM)

Note. Post-test score is given in parentheses. IL = Intermediate Low, IH = Intermediate High, AL = Advanced Low, AM = Advanced Mid.

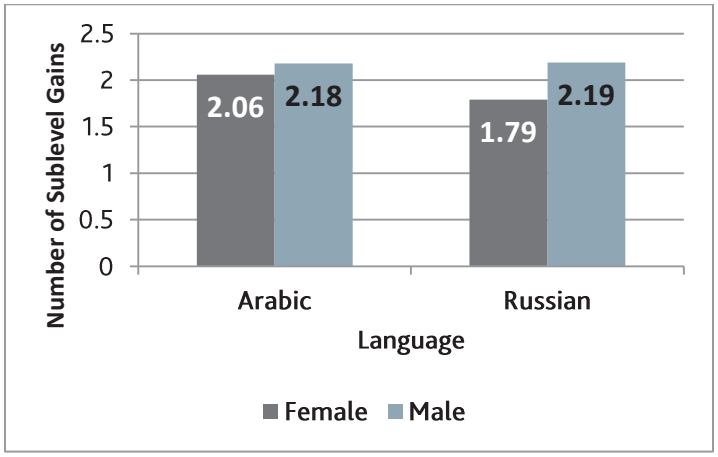
High Initial Proficiency Levels and Long-Term Study Abroad

Students whose initial performance is consistent with the Intermediate Low level make a threshold gain to the Advanced Low level only after study overseas for a full calendar year.

Gender Matters

The report results reveal a statistically significant relationship between gender and language gain, showing that men made slightly higher gains than women among Russian learners and undergraduate students of Arabic (B = .24, p < .05) (Table 11).

Table 11: Mean OPI Gain for Arabic and Russian Students, by Gender



Education Level

When all languages are combined, the relationship between a student's level of education and language gain is statistically significant ($B = -.45$, $p < .05$). Although the difference in language gain is not significant between undergraduate levels (i.e., freshman, sophomore, junior, and senior), graduate-level students demonstrated smaller gains than undergraduate students.

Previous Linguistic Knowledge

The relationship between the amount of time spent studying the target language before study abroad and sublevel gain while abroad is marginally significant ($B = .02$, $p > .05$), and the relationship between the amount of time studying an additional language before study abroad and sublevel gain while studying the target language abroad is positive ($B = .22$, $p > .05$).

Academic Major

The relationships between a student's academic major and oral proficiency gains are not significant.

Differences between Languages

Differences in language gain are statistically significant between languages studied. Most observers would expect this finding to reflect differences in the difficulty of learning each language.[12] However, results indicate that the differences in proficiency gains between languages are not related to language difficulty.

Specifically, the probability of when a student will reach the Advanced Low level varies by language.

- Among students of Arabic, the probability that a student whose initial performance is consistent with the Intermediate Mid level will reach the Advanced Low level after only six months overseas is 54 percent; this probability increases to 72 percent if the student remains overseas for a full calendar year.
- Among students of Russian, the probability that a student whose initial performance is consistent with the Intermediate Mid level student will reach the Advanced Low level within six months is only 45 percent; however, this probability increases substantially to 89 percent after a full calendar year.
- Among students of Mandarin, the probability that a student whose initial performance is consistent with the Intermediate Mid level reaches Advanced Low within only six months is high at 76 percent, and this probability increases to 96 percent after a calendar year.

[12] Language categories of difficulty assigned by the Foreign Service Institute, U.S. Department of State and the Defense Language Institute, U.S. Department of Defense are based on evidence that individual languages require different amounts of time for an adult, English-speaking, beginning learner of the language to achieve an Advanced level of proficiency.

Given the large sample size for several individual languages (Arabic, Mandarin, Russian, Japanese, Spanish, Portuguese, Swahili, and Hindi), additional analysis was completed at the language level. More detailed discussion of these differences is provided in Appendix D: Differences between Languages.

DISCUSSION

While the analysis of language proficiency scores reveals a great deal about the learning gains a student is able to make overseas, the findings should be interpreted within the greater context of language acquisition and study abroad. The numerous differences between studying a language domestically versus overseas are further intensified by the wide range of language programs available. Furthermore, students are individuals whose learning is influenced by their unique capabilities. Therefore, the broad generalizations that are used to describe the findings of this report may not be applicable to every student in every study abroad situation.

The academic disciplines of students studying abroad are more diverse than ever (Farrugia, Bhandari, & Chow, 2012). In 1960, the Open Doors Report on International Educational Exchange reported that of 15,306 U.S. students studying abroad, roughly 50 percent majored in the humanities, nearly 20 percent majored in the medical field, and 2 percent majored in business administration; even smaller percentages majored in engineering and agriculture (Bhandari & Chow, 2009). In contrast, Open Doors also reports that in 2010, the predominant fields represented among students studying overseas were the humanities (approximately 25 percent), social sciences (23 percent), and business management (20 percent), followed by smaller percentages of students in the physical and life sciences, health professions, education, engineering, mathematics, computer science, agriculture, and other disciplines. Among the Boren Awardees included in this report, nearly 42 percent of recipients majored in political science and international affairs, 15 percent majored in area studies or languages, and 14 percent majored in science, technology, engineering, and mathematics.

Trends in overseas programs include expansions of program type (e.g., faculty led or third party), focus (e.g., business, internship, or service learning), duration (e.g., short term, semester, or academic year), and location (i.e., nontraditional destinations outside of Europe) (Trentman, 2013). As a result, for the average student studying abroad, learning a language while overseas may be secondary to a focus on specific experiences related to their academic major or a desire to travel and sightsee.

However, Boren Scholars and Fellows commit to the goal of studying a language during their overseas experience and are encouraged to remain overseas for more than one academic semester in a nontraditional study abroad location. These distinctions make the Boren Scholars and Fellows studied in this report different from the average U.S. student who studies overseas. The fact that this report shows no significant relationship between major and language gain suggests that all students—regardless of major—can benefit from language study overseas and that programs should be developed (and students advised) with this understanding.

Of particular note in this analysis is the relationship between duration overseas, initial proficiency level, and language gains. The results show that students make gains whether they study abroad for a short, medium, or long duration. However, other studies have shown and the data in Table 4 demonstrate that, on average, students who study abroad longer make greater gains (Davidson, 2010; Vande Berg et al., 2009; Watson et al., 2013). In sum, these compelling data should be considered when designing courses

and programs and advising students. Because a longer period abroad translates to greater proficiency gains, all students should be encouraged to study abroad for as long a period as possible. A student whose aim in studying abroad is to reach the Advanced or Superior level of language proficiency should be encouraged to plan for a full calendar year overseas, with a focus on language learning; programs and curricula should be designed to meet this goal. Because results also show that students whose initial performance is consistent with lower proficiency levels can make significant gains during short-term study abroad, beginning-level language learners should not be discouraged from participating in such programs. The key to selecting the overseas duration most appropriate for a given student is to understand his or her academic, linguistic, career, and personal objectives and identify a study abroad experience that effectively meets those goals.

Previous studies exploring the relationship between gender and language have produced conflicting results suggesting that determining who makes greater gains is related to language and host country (Brecht et al., 1995; Davidson, 2010, 2015; Vande Berg et al., 2009). These conflicting results may imply that some programs are implementing interventions which have an influence on student learning. Program administrators should therefore consider these factors and, as necessary, guide students to better understand gender roles in society and identify their opportunity to practice language use in their country of study. Additionally, students must be adequately prepared to manage the gender differences that they encounter while overseas through use of strategies for successful language learning in more challenging environments.

The differences in language gains achieved by undergraduate and graduate students may be related to the nature of overseas graduate study; graduate study is focused more on research and less on coursework than undergraduate study abroad. Therefore, administrators and advisers should work with graduate students—especially those doing research overseas—to identify strong language programs, tutoring programs, or both to augment language learning opportunities.

Study of another language before studying abroad is another area where further research may be necessary to determine whether and how the relationship between the target language and other language influences language gain, corroborating the findings of Brecht et al. (1995).

The differences in gain for individual languages raise questions about how English speakers acquire language and specifically languages with non-Roman alphabet systems. There are several things to note in this regard for some languages. Every aspect of language instruction becomes a complex variable for consideration—which script to introduce and when to introduce it to students, standard language or dialect language, teacher quality, and regional or country perspectives on classroom pedagogy and curriculum among others. All of these variables are brought to the forefront by efforts in the language education field in the United States to increase the number of instructors for less commonly taught languages and ensure that these instructors are qualified according to set standards.

CONCLUSIONS AND FUTURE RESEARCH

This report confirms previous research results which showed that duration abroad, initial proficiency level, and the interaction between initial proficiency level and duration overseas all positively affect student language acquisition in the study abroad setting. The first comprehensive body of research to address

multiple less commonly taught languages, this report also reveals distinctions between the gains made by students who studied different languages.

The data underlying the findings of this report reflect more than 50 languages. The sheer quantity of data for languages that are less commonly taught, never before published in the field of language learning, affords the opportunity to examine and make broad generalizations about language learning gains during study abroad. Large sample sizes of Arabic, Chinese, Japanese, Russian, and Spanish learners allowed for between-language comparisons; however, small samples of fewer than 15 students of Albanian, Hungarian, Persian, Romanian, Urdu, and Uzbek limited comparisons between these six languages. Research on data from more learners of these latter languages is warranted to include them in the comparisons.

Because the Boren Award recipients who make up the data set studied overseas on diverse programs that represent many U.S. institutions, research focused on specific programmatic or curricular elements could provide valuable information. Research that focuses on how students use the target language for oral communication (formally and informally) and the number of contact hours students spend receiving formal language instruction while overseas may identify additional variables that influence language gains. New variables may provide deeper insight for faculty and study abroad professionals on related issues that continue to be studied, such as the value of homestay experiences, language tutors, content courses in the target language, and classes on culture. With a deeper understanding of the process of second language acquisition, domestically and overseas, will allow faculty and study abroad professionals to focus student learning on the aspects most beneficial to their language learning experience.

The results of this report indicate that students can improve proficiency in a world language during overseas study. The benefits of bilingualism have been clearly outlined in the field; bilingualism correlates with increased cognitive development, intelligence, memory skills, and problem-solving ability (American Council on the Teaching of Foreign Languages, n.d.). A necessary step toward a competitive 21st-century workforce requires institutions of higher education to incorporate language study and study abroad into their international education programming. Success requires the support of faculty, administrators, policy-makers, and the public to ensure that adequate funding is available and allocated to these goals.

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APPENDICES

Appendix A: Boren Awards General Information and Preferences

National Security Education Program

The National Security Education Program (NSEP) is designed to build a broader and more qualified pool of U.S. citizens with foreign language and international skills. Established by Congress in 1991, NSEP consists of multiple initiatives, including Boren Scholarships, Boren Fellowships, and the Language Flagship. Boren Scholarships and Fellowships provide funding for U.S. undergraduate and graduate students to study the languages and cultures of Africa, Asia, Central & Eastern Europe, Eurasia, Latin America, and the Middle East.

	Boren Scholarships	Boren Fellowships
Eligibility:	• Undergraduate student matriculated in U.S. college or university • Planning to study abroad in an eligible world region • U.S. Citizen	• Matriculated in, or applying to, a U.S. graduate program • Planning to study an eligible world region and language • U.S. Citizen
Funding:	$20,000 for a full academic year $10,000 per semester $8,000 for summer (8+ weeks)	$24,000 for overseas study $30,000 for a combination of domestic and overseas study
Length:	Full academic year or semester programs are open to all applicants. Summer awards are only available to students in science, technology, engineering or mathematics.	Maximum domestic and overseas funding period is 2 years. Overseas study must be a minimum of 12 weeks and preference will be given to programs of 6-12 months.
Language:	Proposed program must include formal study of an appropriate foreign language	Proposed program must include formal study of an appropriate foreign language
Deadlines:	**February 9, 2016** *Campus representatives will set earlier, on-campus deadlines	**January 28, 2016**

Service:

NSEP enhances the capacity of the federal sector to deal effectively with the challenging global issues of the 21st century. In exchange for financial support, Boren Scholars and Fellows commit to working in the federal government for at least one year after graduation in a position with national security responsibilities. NSEP's Service Requirement is the cornerstone of the Boren Awards program, and the Departments of Defense, Homeland Security, and State, or any element of the Intelligence Community are priority agencies in which to fulfill service. If an award recipient demonstrates to NSEP that no appropriate position is available in one of these agencies, (s)he must seek to fulfill the requirement in a position with national security responsibilities in any federal department or agency. Approval of service outside of a priority agency is contingent upon satisfactory demonstration of a full and good faith effort in accordance with conditions established by NSEP. Securing federal employment is incumbent upon the award recipient.

The federal government is always hiring. For examples of currently-posted federal jobs and a list of Frequently Asked Questions about the NSEP Service Requirement, visit borenawards.org.

Boren gives preference to applicants who are committed to government service and applying for countries, languages, and fields of study that are critical to U.S. national security. Applications for non-preferred areas should make a compelling case that such study will contribute to U.S. national security and the goals of the Boren program.

Commitment to Government Service

Preference will be given to applicants who demonstrate a desire for a career with the federal government.

Preferred Countries

Europe/Eurasia
Albania
Armenia
Azerbaijan
Belarus
Bosnia and Herzegovina
Bulgaria
Croatia
Czech Republic
Georgia
Hungary
Kazakhstan
Kosovo
Kyrgyzstan
Macedonia
Moldova
Montenegro
Poland
Romania
Russia*
Serbia
Slovakia
Slovenia
Tajikistan
Ukraine*
Uzbekistan

Asia
Bangladesh
Cambodia
China
India
Indonesia
Japan
Korea, South
Malaysia
Nepal
Pakistan*
Philippines
Sri Lanka
Taiwan
Thailand
Timor-Leste
Vietnam

Africa
Angola
Benin
Cape Verde
Congo, Dem. Rep. of the*
Congo, Rep. of the
Eritrea*
Ethiopia
Ghana
Kenya
Mali*
Liberia
Mozambique
Nigeria*
Rwanda
Senegal
Sierra Leone
South Africa
Tanzania
Uganda

Latin America
Argentina
Brazil
Chile
Colombia
Cuba
El Salvador
Guatemala
Haiti
Honduras*
Mexico
Nicaragua
Panama
Peru
Venezuela

Middle East
Algeria
Bahrain
Egypt*
Israel
Jordan
Kuwait
Lebanon*
Morocco
Oman
Qatar
Saudi Arabia
Tunisia*
Turkey
United Arab Emirates
Yemen*

NSEP did not make awards for these countries in 2015. You may still apply for a 2016 Boren Award to study in one of these countries; however, you must include a viable alternate plan in another appropriate country for the same language of study.

Preferred Languages

Albanian
African Languages
Akan/Twi
Amharic
Arabic (and dialects)
Armenian
Azerbaijani
Bahasa Indonesian
Bambara
Belarusian
Bengali
Bosnian
Bulgarian
Cambodian
Cantonese
Croatian
Czech
Gan
Georgian
Haitian
Hausa
Hebrew
Hindi
Hungarian
Japanese
Javanese
Kanarese
Kazakh
Khmer
Korean
Kurdish
Kyrgyz
Lingala
Macedonian
Malay
Malayalam
Mandarin
Moldovan
Pashto
Persian
Polish
Portuguese
Punjabi
Romanian
Russian
Serbian
Sinhala
Slovak
Slovenian
Swahili
Tagalog
Tajik
Tamil
Telegu
Thai
Turkmen
Turkish
Uighur
Ukrainian
Urdu
Uzbek
Vietnamese
Wolof
Yoruba
Zulu

Preferred Fields of Study

Agricultural and Food Sciences
Area Studies
Engineering and Sciences (including: biology, chemistry, physics, environmental science, mathematics)
Business and Economics
Computer and Information Sciences
Foreign Langugaes
Health and Biomedical Science
History
International Affairs
Law, Political Science, & Public Policy Studies
Social Sciences (including: anthropology, psychology, sociology)

Preferred Length of Study

Boren highly values cultural and linguistic immersion overseas. Therefore, preference will be given to Boren applicants proposing full academic year study overseas.

Appendix B: Language Categories of Difficulty

Category	Language		
I	Afrikaans (AA) Danish (DA) Dutch (DU) French (FR) Haitian-Creole (HC) Italian (JT) Sardinian (JK) Neapolitan (JM) Sicilian (JS Norwegian (NR)	Portuguese (PY) Brazilian (PQ) European (PT) Spanish (QB) American (LA) Caribbean (QC) Castilian (SR) Creole (SS) Swedish (SY) Taki-Taki (TG)	
II	German (GM) Indonesian (JN) Malay (ML) Romanian/Rumanian (RQ) (includes Moldavian)		
III	Albanian (AB) Amharic (AC) Armenian (AR) Azerbaijani/Azeri (AX) Bashkir (BP) Basque (BQ) Belorussian/Byelorussian (BL) Bemba (BM) Bengali/Bangla (BN) Bikol/Bicol/Vicol (CG) Bulgarian (BU) Burmese (BY) Cambodian/Khmer (CA) Czech (CX) Dari/Persian-Afghan/Persian-Dari (PG) Divehi/Maldivian (DV) Estonian (ES) Farsi/Persian-Farsi (PF) Finnish (FJ) Georgian (GG) Greek (GR) Hausa (HS) Hebrew (HE Hindi (HJ) Hungarian (HU) Ilocan (JL) Kachin (KH) Karen (KC) Kazakh (KE)	Kinyarwanda (KL) Kirghiz/Kirgiz (KM) Kurdish (KU) Lahu (LM) Laotian/Lao (LC) Latvian (LE) Lingala/Ngala (LJ) Lithuanian (LT) Macedonian (MA) Malagasy (MG) Maranao (LY) Miskito (NM) Mongolian (MV) Nepali/Nepalese (NE) Nyanja/Chinyanja (NY) Ossetic (QS) Pampangan (QV) Polish (PL) Punjabi (PJ) Pushtu/Pashto (PU) Rade/Rhade (RH) Russian (RU) Serbo-Croatian (SC) Shan (SF) Shona (SH) Singhalese/Sinhalese (SJ) Slovak (SK) Slovenian (SL) Somali (SM)	Swahili (SW) Taik/Tadjik/Tadzhik (TB) Tagalog/Filipino/Pilipino (TA) Tamil (TC) Tatar (TM) Telegu/Telugu (TE) Thai (TH) Tibetan (TJ) Tigrinya (TL) Turkish (TU Turkmen/Turkoman (UB) Uighur (UJ) Ukrainian (UK) Urdu (UR) Uzbek (UX) Vietnamese (VN) Central (VC) Hanoi (VN) Saigon (VS) Visayan (VY) Cebuano (VB) Hiligaynon (VH) WA (WV) Xhosa (WH) Yoruba (YQ) Zulu (XU)
IV	Arabic (AZ) Algerian (AM) Egyptian (AE) Gulf Iraqi (DG) Libyan (AL) Modern Standard (AD) Moroccan (BS) Saudi (AN) Sudanese (AV) Syrian (AP) Tunisian (BW) Yemeni-Adeni (AU)	Chinese (CZ) Cantonese (CC) Cha'o Chou/Swatow (YE) Fuchow/North Min (CQ) Fukienese/Min (CF) Hakka (CH) Mandarin-Yunnanese (CM) South Min (CD) Wu (CS) Japanese (JA) Korean (KP)	

Appendix C: Numeric Values Assigned to ACTFL Levels for Statistical Analysis

Level	Value
Superior	13
Advanced High	11
Advanced Mid	10
Advanced Low	9
Intermediate High	7
Intermediate Mid	6
Intermediate Low	5
Novice High	3
Novice Mid	2
Novice Low	1
No Experience	0

Appendix D: Differences between Languages

Additional analysis was completed at the individual language level for the languages with the largest sample sizes (in descending order): Arabic, Mandarin, Russian, Japanese, Spanish, Portuguese, Swahili, and Hindi. A hierarchical logistic regression was run to calculate the predicted probability of students reaching the Advanced Low proficiency level.

Arabic

The coefficients and confidence intervals listed in Table D-1 demonstrate evidence of a relationship between language gain and the following variables: initial proficiency, duration overseas, interaction between initial proficiency and duration overseas, gender, education level, and length of study in an additional language. Tables D-2 and D-3 illustrate the magnitudes of these relationships as the predicted probabilities for language gain by students of Arabic who study overseas. The number of sublevel gains achieved by students of Arabic who begin with no experience or at a Novice or Intermediate level increases the longer they remain abroad. Students of Arabic can expect to make a threshold gain during a study abroad program of at least six months (Table D-2); their probability of reaching the Advanced Low level increases at each progressively longer duration over the course of a calendar year and is highest (72 percent) for those who begin the study abroad period at the Intermediate Mid level and remain overseas for a full calendar year (Table D-3).

Tables D-4 through D-6 illustrate the relationships between pre- and post- OPI scores of students who studied overseas for short, medium, and long durations, respectively. Dark green shading indicates positive language gain by one or more sublevels, light green shading indicates maintenance (no change in proficiency), and yellow shading indicates a loss of language proficiency.

Table D-1: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Arabic (*N* = 538 students)

Variable	Coefficient	Confidence Interval
Intercept	2.03*	(1.30 : 2.76)
Initial Proficiency	–.43*	(–0.48 : –0.39)
Duration	.03*	(0.01 : 0.04)
Interaction of Initial Proficiency and Duration	<.01*	(–0.01 : –0.00)
Graduate Student	–.64*	(–1.1 : –0.22)
Upperclassman	–.24	(–0.55 : 0.07)
Gender (male)	–.34*	(–0.60 : 0.07)
Length of L2 Study	.02	(–0.01 : 0.05)
Length of L3 Study	.02	(–0.03 : 0.07)
Length of Target Language Study	.05	(–0.02 : 0.12)
Studied a Language Other than English	.54*	(0.09 : 0.98)
Random Effects		
Program	.32	(0.20 : 0.50)
Country	.46	(0.24 : 0.90)
Residual	1.49	(1.44 : 1.54)

Note. * indicates that $p < .05$; [a] indicates that $.05 < p < .10$

Table D-2: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Arabic

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	3.45 (NH)	2.81 (IL)	1.52 (IH)
16 Weeks	3.93 (NH)	3.21 (IM)	1.76 (IH)
26 Weeks	4.41 (IL)	3.61 (IM)	2.00 (AL)
52 Weeks	5.65 (IM)	4.64 (IH)	2.62 (AL)

Note: Post-test score is given in parentheses. NH = Novice High, IL = Intermediate Low, IM = Intermediate Mid, IH = Intermediate High, AL = Advanced Low.

Table D-3: Probability of Students at the Novice Mid and Intermediate Levels Reaching Advanced Low Level, Arabic

Duration	Novice Mid	Intermediate Mid
6 Weeks	5%	39%
16 Weeks	6%	47%
26 Weeks	8%	54%
52 Weeks	18%	72%

Table D-4: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Short-Duration Programs (8 weeks or less), Arabic

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	2 28.6%	4 57.1%	0 0.0%	1 14.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 100.0%
Novice Low	0 0.0%	1 20.0%	2 40.0%	1 20.0%	0 0.0%	1 20.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 100.0%
Novice Mid	0 0.0%	0 0.0%	1 14.3%	5 71.4%	1 14.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 33.3%	4 33.3%	4 33.3%	0 0.0%	0 0.0%	0 0.0%	12 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 25.0%	1 12.5%	2 25.0%	2 25.0%	1 12.5%	0 0.0%	8 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	2 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	1 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	3 6.8%	7 15.9%	7 15.9%	9 20.5%	6 13.6%	6 13.6%	4 9.1%	2 4.5%	0 0.0%	44 100.0%

Table D-5: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Medium-Duration Programs (9–25 weeks), Arabic

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	2 8.7%	5 21.7%	5 21.7%	6 26.1%	3 13.0%	0 0.0%	2 8.7%	0 0.0%	0 0.0%	0 0.0%	23 100.0%
Novice Low	0 0.0%	3 23.1%	0 0.0%	7 53.8%	1 7.7%	0 0.0%	1 7.7%	1 7.7%	0 0.0%	0 0.0%	13 100.0%
Novice Mid	0 0.0%	1 8.3%	2 16.7%	6 50.0%	1 8.3%	1 8.3%	1 8.3%	0 0.0%	0 0.0%	0 0.0%	12 100.0%
Novice High	1 7.1%	0 0.0%	0 0.0%	4 28.6%	4 28.6%	4 28.6%	1 7.1%	0 0.0%	0 0.0%	0 0.0%	14 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	2 10.5%	12 63.2%	4 21.1%	1 5.3%	0 0.0%	0 0.0%	0 0.0%	19 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 6.3%	5 31.3%	4 25.0%	6 37.5%	0 0.0%	0 0.0%	16 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 43.8%	3 18.8%	5 31.3%	1 6.3%	0 0.0%	16 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	8 50.0%	8 50.0%	0 0.0%	0 0.0%	16 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 28.6%	4 57.1%	1 14.3%	0 0.0%	7 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	1 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	3 2.2%	9 6.6%	7 5.1%	25 18.2%	22 16.1%	21 15.3%	23 16.8%	24 17.5%	2 1.5%	1 0.7%	137 100.0%

Table D-6: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Long-Duration Programs (26 weeks or more), Arabic

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	1 2.8%	5 13.9%	3 8.3%	14 38.9%	8 22.2%	3 8.3%	2 5.6%	0 0.0%	0 0.0%	0 0.0%	36 100.0%
Novice Low	0 0.0%	1 3.6%	3 10.7%	7 25.0%	13 46.4%	2 7.1%	1 3.6%	1 3.6%	0 0.0%	0 0.0%	28 100.0%
Novice Mid	0 0.0%	0 0.0%	4 9.8%	9 22.0%	13 31.7%	9 22.0%	3 7.3%	2 4.9%	1 2.4%	0 0.0%	41 100.0%
Novice High	0 0.0%	0 0.0%	2 3.7%	6 11.1%	18 33.3%	18 33.3%	8 14.8%	1 1.9%	1 1.9%	0 0.0%	54 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	3 5.6%	12 22.2%	11 20.4%	17 31.5%	10 18.5%	1 1.9%	0 0.0%	54 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	1 1.4%	7 10.1%	27 39.1%	23 33.3%	8 11.6%	2 2.9%	1 1.4%	69 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	8 17.4%	15 32.6%	12 26.1%	9 19.6%	2 4.3%	46 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 3.3%	7 23.3%	17 56.7%	2 6.7%	3 10.0%	30 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 4.8%	0 0.0%	12 57.1%	6 28.6%	2 9.5%	21 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 100.0%	0 0.0%	7 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 16.7%	5 83.3%	6 100.0%
Total	1 0.3%	6 1.5%	12 3.1%	40 10.2%	71 18.1%	80 20.4%	76 19.4%	63 16.1%	30 7.7%	13 3.3%	392 100.0%

Mandarin

The coefficients and confidence intervals listed in Table D-7 demonstrate evidence of a relationship between language gain and the following variables: initial proficiency, duration overseas, the interaction between initial proficiency and duration overseas, and education level. Tables D-8 and D-9 illustrate the magnitudes of these relationships as predicted probabilities for language gain by students of Mandarin who study overseas. The number of sublevel gains achieved by students of Mandarin who begin with no experience or at a Novice or Intermediate level increases substantially the longer they remain abroad. Students of Mandarin can expect to make a threshold gain during a study abroad program of at least 16 weeks (Table D-8), and the probability is high that students who begin at the Advanced Low level will achieve the Novice Mid (65 percent) or the Intermediate Mid (96 percent) level within a calendar year (Table D-9).

Tables D-10 through D-12 illustrate the relationships between pre- and post- OPI scores of students who studied overseas for short, medium, and long durations, respectively. Dark green shading indicates positive language gain by one or more sublevels, light green shading indicates maintenance (no change in proficiency), and yellow shading indicates a loss of language proficiency.

Table D-7: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Mandarin (*N* = 442 students)

Variable	Coefficient	Confidence Interval
Intercept	3.68*	(3.07 : 4.28)
Initial Proficiency	–.53*	(–0.58 : 0.48)
Duration	.04*	(0.03 : 0.05)
Interaction of Initial Proficiency and Duration	<.01*	(–0.01 : –0.00)
Graduate Student	–.45*	(–0.92 : 0.01)
Upperclassman	–.38*	(–0.67 : –0.10)
Gender (male)	–.14	(–0.39 : 0.13)
Length of L2 Study	<.01	(–0.03 : 0.03)
Length of L3 Study	–.01	(–0.07 : 0.06)
Length of Study in the Target Language	.02	(–0.02 : 0.06)
Studied a Language Other than English	–.17	(–0.56 : 0.25)
Random Effects		
Program	.43	(0.26 : 0.72)
Residual	1.28	(1.19 : 1.38)

Note. * indicates that $p < .05$; [a] indicates that $.05 < p < .10$

Table D-8: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Mandarin

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	3.73 (NH)	3.10 (IM)	1.83 (IH)
16 Weeks	4.58 (IL)	3.80 (IM)	2.23 (AL)
26 Weeks	5.43 (IM)	4.50 (IH)	2.63 (AL)
52 Weeks	7.63 (AL)	6.31 (AM)	3.67 (AM)

Note: Post-test score is given in parentheses. IL = Intermediate Low, IH = Intermediate High, AL = Advanced Low, AM = Advanced Mid.

Table D-9: Probability of Students at the Novice Mid and Intermediate Mid Levels Reaching Advanced Low Level, Mandarin

Duration	Novice Mid	Intermediate Mid
6 Weeks	2%	42%
16 Weeks	6%	60%
26 Weeks	14%	76%
52 Weeks	65%	96%

Table D-10: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Short-Duration Programs (8 weeks or less), Mandarin

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	1 50.0%	0 0.0%	1 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Novice Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice Mid	0 0.0%	0 0.0%	0 0.0%	1 25.0%	3 75.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	1 33.3%	1 33.3%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	2 33.3%	2 33.3%	1 16.7%	1 16.7%	0 0.0%	0 0.0%	0 0.0%	6 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 20.0%	0 0.0%	3 60.0%	1 20.0%	0 0.0%	0 0.0%	5 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	0 0.0%	2 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 20.0%	4 80.0%	0 0.0%	0 0.0%	5 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	2 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	1 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	0 0.0%	1 3.3%	4 13.3%	8 26.7%	2 6.7%	6 20.0%	6 20.0%	2 6.7%	1 3.3%	30 100.0%

Table D-11: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Medium-Duration Programs (9–25 weeks), Mandarin

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	1 12.5%	3 37.5%	2 25.0%	2 25.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	8 100.0%
Novice Low	0 0.0%	0 0.0%	0 0.0%	2 50.0%	2 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 100.0%
Novice Mid	0 0.0%	0 0.0%	2 22.2%	0 0.0%	3 33.3%	3 33.3%	0 0.0%	1 11.1%	0 0.0%	0 0.0%	9 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	2 28.6%	3 42.9%	0 0.0%	1 14.3%	1 14.3%	0 0.0%	0 0.0%	7 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	6 33.3%	6 33.3%	3 16.7%	3 16.7%	0 0.0%	0 0.0%	18 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	6 20.0%	10 33.3%	8 26.7%	4 13.3%	2 6.7%	0 0.0%	30 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 12.5%	4 25.0%	8 50.0%	2 12.5%	0 0.0%	16 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	10 83.3%	1 8.3%	1 8.3%	12 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 38.5%	7 53.8%	1 7.7%	13 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%	3 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 33.3%	0 0.0%	0 0.0%	2 66.7%	3 100.0%
Total	0 0.0%	1 0.8%	5 4.1%	6 4.9%	22 17.9%	21 17.1%	17 13.8%	32 26.0%	12 9.8%	7 5.7%	123 100.0%

Table D-12: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Long-Duration Programs (26 weeks or more), Mandarin

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 28.6%	2 28.6%	0 0.0%	3 42.9%	0 0.0%	0 0.0%	7 100.0%
Novice Low	0 0.0%	0 0.0%	1 8.3%	1 8.3%	3 25.0%	4 33.3%	2 16.7%	1 8.3%	0 0.0%	0 0.0%	12 100.0%
Novice Mid	0 0.0%	0 0.0%	0 0.0%	2 12.5%	6 37.5%	2 12.5%	3 18.8%	3 18.8%	0 0.0%	0 0.0%	16 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	3 8.1%	7 18.9%	7 18.9%	10 27.0%	7 18.9%	3 8.1%	0 0.0%	37 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 6.5%	8 17.4%	15 32.6%	18 39.1%	2 4.3%	0 0.0%	46 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	1 1.6%	1 1.6%	4 6.3%	26 40.6%	26 40.6%	6 9.4%	0 0.0%	64 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	6 15.0%	25 62.5%	9 22.5%	0 0.0%	40 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 2.6%	4 10.5%	19 50.0%	12 31.6%	2 5.3%	38 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	11 28.2%	21 53.8%	7 17.9%	39 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 5.9%	2 11.8%	9 52.9%	5 29.4%	17 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 16.7%	5 83.3%	6 100.0%
Total	0 0.0%	0 0.0%	1 0.3%	7 2.2%	22 6.8%	28 8.7%	67 20.8%	115 35.7%	63 19.6%	19 5.9%	322 100.0%

Russian

The coefficients and confidence intervals listed in Table D-13 demonstrate evidence of a relationship between language gain and the following variables: initial proficiency, duration overseas, the interaction between initial proficiency and duration overseas, gender, education level, and length of study of a third language. Tables D-14 and D-15 illustrate the magnitudes of these relationships as predicted probabilities for language gain by students of Russian who study overseas. The number of sublevel gains achieved by students of Russian who begin with no experience or at a Novice or Intermediate level increases steadily the longer they remain abroad. Students of Russian can expect to make a threshold gain during a study abroad program of at least six months (Table D-14), and the probability is high that students who begin at the Novice Mid (68 percent) or the Intermediate Mid level (89 percent) will reach the Advanced Low level within a calendar year (Table D-15).

Tables D-16 through D-18 illustrate the relationships between pre- and post- OPI scores of students who studied overseas for short, medium, and long durations, respectively. Dark green shading indicates positive language gain by one or more sublevels, light green shading indicates maintenance (no change in proficiency), and yellow shading indicates a loss of language proficiency.

Table D-13: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Russian (*N* = 327 students)

Variable	Coefficient	Confidence Interval
Intercept	2.83*	(2.15 : 3.52)
Initial Proficiency	–.41*	(–0.48 : –0.34)
Duration	.05*	(0.04 : 0.07)
Interaction of Initial Proficiency and Duration	<.01[a]	(–0.01 : –0.00)
Graduate Student	–.57*	(–1.12 : –0.02)
Upperclassman	.15	(–0.18 : 0.48)
Gender (male)	–.46*	(–0.76 : –0.16)
Length of L2 Study	.07*	(0.03 : 0.11)
Length of L3 Study	.10	(–0.08 : 0.28)
Length of study in the Target Language	–.04	(–0.12 : 0.04)
Studied a Language Other than English	.07	(–0.38 : 0.51)
Random Effects		
Program	-	
Residual	1.28	(1.19 : 1.38)

Note. * indicates that $p < .05$; [a] indicates that $.05 < p < .10$

Table D-14: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Russian

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	2.83 (NM)	2.26 (IL)	1.12 (IH)
16 Weeks	3.62 (NH)	2.96 (IL)	1.65 (IH)
26 Weeks	4.41 (IL)	3.67 (IM)	2.17 (AL)
52 Weeks	6.48 (IH)	5.50 (AL)	3.54 (AM)

Note: Post-test score is given in parentheses. NM = Novice Mid, NH = Novice High, IL = Intermediate Low, IM = Intermediate Mid, IH = Intermediate High, AL = Advanced Low, AM = Advanced Mid.

Table D-15: Probability of Students at the Novice Mid and Intermediate Mid Levels Reaching Advanced Low Level, Russian

Duration	Novice Mid	Intermediate Mid
6 Weeks	0%	13%
16 Weeks	0%	26%
26 Weeks	1%	45%
52 Weeks	68%	89%

Table D-16: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Short-Duration Programs (8 weeks or less), Russian

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	1 33.3%	1 33.3%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%
Novice Low	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Novice Mid	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	1 14.3%	6 85.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	1 11.1%	3 33.3%	5 55.6%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 60.0%	2 40.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	1 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	1 3.3%	2 6.7%	5 16.7%	12 40.0%	7 23.3%	2 6.7%	1 3.3%	0 0.0%	0 0.0%	30 100.0%

Table D-17: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Medium-Duration Programs (9–25 weeks), Russian

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Novice Low	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Novice Mid	0 0.0%	0 0.0%	1 14.3%	2 28.6%	4 57.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	3 13.0%	15 65.2%	5 21.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	23 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	3 10.7%	13 46.4%	9 32.1%	2 7.1%	1 3.6%	0 0.0%	0 0.0%	28 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 32.1%	9 32.1%	7 25.0%	2 7.1%	1 3.6%	0 0.0%	28 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 11.1%	5 55.6%	0 0.0%	2 22.2%	1 11.1%	0 0.0%	9 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 75.0%	1 25.0%	0 0.0%	4 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	1 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	1 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	0 0.0%	4 3.8%	9 8.6%	42 40.0%	28 26.7%	9 8.6%	8 7.6%	4 3.8%	1 1.0%	105 100.0%

Table D-18: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Long-Duration Programs (26 weeks or more), Russian

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 71.4%	1 14.3%	0 0.0%	1 14.3%	0 0.0%	0 0.0%	7 100.0%
Novice Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice Mid	0 0.0%	0 0.0%	0 0.0%	3 17.6%	11 64.7%	2 11.8%	1 5.9%	0 0.0%	0 0.0%	0 0.0%	17 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	1 4.5%	6 27.3%	5 22.7%	4 18.2%	6 27.3%	0 0.0%	0 0.0%	22 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	16 28.6%	14 25.0%	17 30.4%	9 16.1%	0 0.0%	0 0.0%	56 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 12.7%	14 25.5%	12 21.8%	16 29.1%	5 9.1%	1 1.8%	55 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 7.7%	7 26.9%	7 26.9%	8 30.8%	2 7.7%	26 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 7.7%	2 15.4%	4 30.8%	4 30.8%	2 15.4%	13 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	6 50.0%	3 25.0%	3 25.0%	12 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 50.0%	2 50.0%	4 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%	3 100.0%
Total	0 0.0%	0 0.0%	0 0.0%	4 1.9%	45 20.9%	39 18.1%	43 20.0%	49 22.8%	22 10.2%	13 6.0%	215 100.0%

Japanese

The coefficients and confidence intervals listed in Table D-19 demonstrate evidence of a relationship between language gain and the following variables: initial proficiency, duration overseas, the interaction between initial proficiency and duration overseas, length of study in the target language, and length of study of an additional language. Tables D-20 and D-21 illustrate the magnitudes of these relationships as predicted probabilities for language gain by students of Japanese who study overseas. The number of sublevel gains achieved by students of Japanese who begin with no experience or at a Novice or Intermediate level increases slowly the longer they remain abroad, and the probability is low (33 percent) that students who begin at the Intermediate Mid level will reach the Advanced Low level within a calendar year (Table D-21).

Tables D-22 through D-24 illustrate the relationships between pre- and post- OPI scores of students who studied overseas for short, medium, and long durations, respectively. Dark green shading indicates positive language gain by one or more sublevels, light green shading indicates maintenance (no change in proficiency), and yellow shading indicates a loss of language proficiency.

Table D-19: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Japanese (*N* = 207 students)

Variable	Coefficient	Confidence Interval
Intercept	1.97	(1.21 : 2.73)
Initial Proficiency	–.37*	(–0.46 : –0.28)
Duration	.02*	(0.01 : 0.04)
Interaction of Initial Proficiency and Duration	<.01*	(–0.01 : –0.00)
Graduate Student	.21	(–0.50 : 0.91)
Upperclassman	–.19	(–0.55 : 0.17)
Gender (male)	.06	(–0.27 : 0.39)
Length of L2 Study	–.05*	(–0.10 : –0.00)
Length of L3 Study	.01	(–0.07 : 0.10)
Length of Target Language Study	–.1*	(–0.27 : 0.39)
Studied a Language Other than English	.09	(–0.37 : 0.55)
Random Effects		
Program	.67	(0.44 : 1.01)
Residual	1.02	(0.89 : 1.18)

Note. * indicates that $p < .05$; [a] indicates that $.05 < p < .10$

Table D-20: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Japanese

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	2.04 (NM)	1.66 (NH)	0.91 (IM)
16 Weeks	2.61 (NM)	2.11 (IL)	1.10 (IH)
26 Weeks	3.19 (NH)	2.55 (IL)	1.29 (IH)
52 Weeks	4.68 (IL)	3.72 (IM)	1.79 (IH)

Note. Post-test score is given in parentheses. NM = Novice Mid, NH = Novice High, IL = Intermediate Low, IM = Intermediate Mid, IH = Intermediate High.

Table D-21: Probability of Students at the Novice Mid and Intermediate Mid Levels Reaching Advanced Low Level, Japanese

Duration	Novice Mid	Intermediate Mid
6 Weeks	0%	17%
16 Weeks	0%	20%
26 Weeks	0%	23%
52 Weeks	1%	33%

Table D-22: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Short-Duration Programs (8 weeks or less), Japanese

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Novice Low	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Novice Mid	0 0.0%	1 33.3%	1 33.3%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	2 66.7%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	1 33.3%	1 33.3%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	4 28.6%	1 7.1%	4 28.6%	4 28.6%	1 7.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	14 100.0%

Table D-23: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Medium-Duration Programs (9–25 weeks), Japanese

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Novice Low	0 0.0%	1 20.0%	3 60.0%	1 20.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 100.0%
Novice Mid	0 0.0%	0 0.0%	5 50.0%	4 40.0%	1 10.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	10 100.0%
Novice High	0 0.0%	0 0.0%	2 15.4%	6 46.2%	4 30.8%	1 7.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	13 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	4 33.3%	6 50.0%	2 16.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	12 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	1 2.3%	10 22.7%	16 36.4%	12 27.3%	5 11.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	44 100.0%

Table D-24: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Long-Duration Programs (26 weeks or more), Japanese

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Novice Low	0 0.0%	0 0.0%	2 50.0%	0 0.0%	1 25.0%	1 25.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 100.0%
Novice Mid	0 0.0%	1 3.4%	9 31.0%	7 24.1%	9 31.0%	2 6.9%	1 3.4%	0 0.0%	0 0.0%	0 0.0%	29 100.0%
Novice High	0 0.0%	0 0.0%	1 2.6%	10 25.6%	21 53.8%	6 15.4%	1 2.6%	0 0.0%	0 0.0%	0 0.0%	39 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	4 10.8%	16 43.2%	13 35.1%	3 8.1%	1 2.7%	0 0.0%	0 0.0%	37 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	10 35.7%	13 46.4%	4 14.3%	0 0.0%	1 3.6%	0 0.0%	28 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 13.3%	2 13.3%	7 46.7%	3 20.0%	1 6.7%	0 0.0%	15 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 40.0%	2 40.0%	1 20.0%	0 0.0%	5 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 40.0%	3 60.0%	0 0.0%	5 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	0 0.0%	2 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	1 0.6%	12 7.3%	21 12.7%	60 36.4%	37 22.4%	19 11.5%	9 5.5%	6 3.6%	0 0.0%	165 100.0%

Spanish

The coefficients and confidence intervals listed in Table D-25 demonstrate evidence of a relationship between language gain and the following variables: initial proficiency, duration overseas, and the interaction between initial proficiency and duration overseas. Tables D-26 and D-27 illustrate the magnitudes of these relationships as the predicted probabilities for language gain by students of Spanish who study overseas.[13] The number of sublevel gains achieved by students of Spanish who begin with no experience or at a Novice or Intermediate level increases considerably the longer they remain abroad, and the probability is high (89 percent) that students who begin at the Intermediate Mid level will reach the Advanced Low level within six months (Table D-27).

Tables D-28 through D-30 illustrate the relationships between pre- and post- OPI scores of students who studied overseas for short, medium, and long durations, respectively. Dark green shading indicates positive language gain by one or more sublevels, light green shading indicates maintenance (no change in proficiency), and yellow shading indicates a loss of language proficiency.

Table D-25: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Spanish (*N* = 162 students)

Variable	Coefficient	Confidence Interval
Intercept	2.03*	(0.99 : 3.07)
Initial Proficiency	–.46*	(–0.56 : –0.35)
Duration	.04*	(0.02 : 0.06)
Interaction of Initial Proficiency and Duration	<.01*	(–0.01 : –0.00)
Graduate Student	.41	(–0.26 : 1.10)
Upperclassman	.12	(–0.34 : 0.57)
Gender (male)	–.08	(–0.42 : 0.35)
Length of L2 Study	.02	(–0.03 : 0.07)
Length of L3 Study	.22	(–1.1 : 1.50)
Length of Study in the Target Language	.05	(–0.01 : 0.10)
Studied a Language Other than English	.19	(–0.31 : 0.70)
Random Effects		
Program	-	-
Residual	1.23	(1.10 : 1.37)

Note. * indicates that $p < .05$; [a] indicates that $.05 < p < .10$

[13] The predicted probability values for Spanish may be less reliable than other predictions because of limited variation in the sample. More than one-third of the students in the sample already had reached Advanced Low and another one-third already had reached Intermediate High. The remaining one-third of the students in the sample were at Intermediate Low and Mid levels.

Table D-26: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Spanish

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	2.85 (NM)	2.39 (IL)	1.48 (IH)
16 Weeks	3.67 (NH)	3.05 (IM)	1.82 (IH)
26 Weeks	4.49 (IL)	3.72 (IM)	2.16 (AL)
52 Weeks	6.63 (IH)	5.43 (AL)	3.05 (AM)

Note. Post-test score is given in parentheses. NM = Novice Mid, NH = Novice High, IL = Intermediate Low, IM = Intermediate Mid, IH = Intermediate High, AL = Advanced Low, AM = Advanced Mid.

Table D-27: Probability of Students at the Novice Mid and Intermediate Mid Levels Reaching Advanced Low Level, Spanish

Duration	Novice Mid	Intermediate Mid
6 Weeks	0%	25%
16 Weeks	1%	39%
26 Weeks	1%	56%
52 Weeks	1%	89%

Table D-28: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Short-Duration Programs (8 weeks or less), Spanish

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice Low	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Novice Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	1 33.3%	2 66.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 40.0%	3 60.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	1 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	0 0.0%	1 8.3%	0 0.0%	1 8.3%	4 33.3%	5 41.7%	0 0.0%	0 0.0%	1 8.3%	0 0.0%	12 100.0%

Table D-29: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Medium-Duration Programs (9–25 weeks), Spanish

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 66.7%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 66.7%	2 33.3%	0 0.0%	0 0.0%	0 0.0%	6 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	1 3.6%	0 0.0%	12 42.9%	13 46.4%	2 7.1%	0 0.0%	0 0.0%	28 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 6.7%	2 13.3%	3 20.0%	7 46.7%	2 13.3%	0 0.0%	15 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 10.0%	1 10.0%	6 60.0%	1 10.0%	1 10.0%	10 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 8.3%	6 50.0%	2 16.7%	3 25.0%	12 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 33.3%	3 50.0%	1 16.7%	6 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 50.0%	2 50.0%	4 100.0%
Total	0 0.0%	0 0.0%	0 0.0%	1 1.2%	3 3.6%	20 23.8%	20 23.8%	23 27.4%	10 11.9%	7 8.3%	84 100.0%

Table D-30: Relationship between Pre and Post Program OPI Scores of Boren Awardees Who Completed Long-Duration Programs (26 weeks or more), Spanish

PRE - ORAL PROFICIENCY LEVEL	POST - ORAL PROFICIENCY LEVEL										
	Novice Low	Novice Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior	Total
No Experience	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Novice Mid	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Novice High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
Intermediate Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 75.0%	0 0.0%	1 25.0%	0 0.0%	0 0.0%	0 0.0%	4 100.0%
Intermediate Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 12.5%	6 25.0%	9 37.5%	4 16.7%	2 8.3%	0 0.0%	24 100.0%
Intermediate High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 8.3%	6 25.0%	14 58.3%	2 8.3%	0 0.0%	24 100.0%
Advanced Low	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 6.7%	4 26.7%	6 40.0%	4 26.7%	0 0.0%	15 100.0%
Advanced Mid	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 19.0%	10 47.6%	4 19.0%	3 14.3%	21 100.0%
Advanced High	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 40.0%	3 60.0%	5 100.0%
Superior	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 16.7%	5 83.3%	6 100.0%
Total	1 1.0%	0 0.0%	0 0.0%	0 0.0%	6 5.9%	10 9.9%	24 23.8%	34 33.7%	15 14.9%	11 10.9%	101 100.0%

Portuguese

The coefficients and confidence intervals listed in Table D-31 demonstrate evidence of a relationship between language gain and initial proficiency. Duration overseas, the interaction between the initial proficiency level and duration overseas, and graduate-level education were marginally significant. Tables D-32 and D-33 illustrate the magnitudes of these relationships as predicted probabilities for language gain by students of Portuguese who study overseas. The number of sublevel gains achieved by students of Portuguese who begin with no experience or at a Novice or Intermediate level increases considerably the longer they remain abroad, and the probability is high (83 percent) that students who begin at the Intermediate Mid level will reach the Advanced Low level within a short period overseas (Table D-33).

Table D-31: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Portuguese (*N* = 107 students)

Variable	Coefficient	Confidence Interval
Intercept	3.29*	(1.27 : 5.38)
Initial Proficiency	–.61*	(–0.73 : –0.51)
Duration	.02[a]	(–0.00 : 0.05)
Interaction of Initial Proficiency and Duration	<.01[a]	(–0.01 : 0.00)
Graduate	–1.07[a]	(–2.2 : 0.07)
Upperclassman	.09	(–0.82 : 1.01)
Gender (male)	–.47	(–1.19 : 0.24)
Length of L2 Study	.02	(–0.05 : 0.08)
Length of L3 Study	–.04	(–0.14 : 0.05)
Length of Target Language Study	–.05	(–0.33: 0.23)
Studied a Language Other than English	.51	(–0.90 : 1.93)
Random Effects		
Program	.00	(<0.00 : <0.001)
Residual	1.72	(1.5 : 1.96)

Note. * indicates that $p < .05$; [a] indicates that $.05 < p < .10$

Table D-32: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Portuguese

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	5.20 (IM)	4.27 (IH)	2.42 (AL)
16 Weeks	5.72 (IM)	4.68 (IH)	2.61 (AL)
26 Weeks	6.25 (IH)	5.10 (AL)	2.80 (AL)
52 Weeks	7.61 (AL)	6.17 (AM)	3.29 (AM)

Note. Post-test score is given in parentheses. IM = Intermediate Mid, IH = Intermediate High, AL = Advanced Low, AM = Advanced Mid.

Table D-32: Probability of Students at the Novice Mid and Intermediate Mid Levels Reaching Advanced Low Level, Portuguese

Duration	Novice Mid	Intermediate Mid
6 Weeks	11%	83%
16 Weeks	17%	84%
26 Weeks	27%	85%
52 Weeks	59%	86%

Swahili

The coefficients and confidence intervals listed in Table D-34 demonstrate evidence of a relationship between language gain and the following variables: initial proficiency and duration overseas. The length of study in the target language was marginally significant. Tables D-35 and D-36 illustrate the magnitudes of these relationships as predicted probabilities for language gain by students of Swahili who study overseas. The number of sublevel gains achieved by students of Swahili who begin with no experience or at a Novice or Intermediate level increases considerably the longer they remain abroad. In fact, students who begin at the Novice Mid level may be able to make two threshold gains and reach the Advanced Low level, and the probability is high that a student who begins at an Intermediate Mid level will reach the Advanced Low level within a 16-week semester (43 percent) and certainly within six months (100 percent) (Table D-36).

Table D-34: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Swahili (*N* = 77 students)

Variable	Coefficient	Confidence Interval
Intercept	1.75[a]	(–0.22 : 3.72)
Initial Proficiency	–.47*	(–0.60 : –0.34)
Duration	.06*	(0.02 : 0.09)
Interaction of Initial Proficiency and Duration	<.01	(–0.01 : 0.01)
Graduate Student	–.57	(–1.54 : 0.40)
Upperclassman	.60	(–0.35 : 1.54)
Gender (male)	.56	(–0.27 : 1.38)
Length of L2 Study	.05	(–0.05 : 0.14)
Length of L3 Study	.04	(–0.20 : 0.28)
Length of Target Language Study	.19[a]	(–0.03 : 0.41)
Studied a Language Other than English	.86	(–0.46 : 2.18)
Random Effects		
Program	.00	(<0.00 : <0.001)
Residual	1.59	(1.4 : 1.87)

Note. * indicates that p < .05; [a] indicates that .05 < p < .10

Table D-35: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Swahili

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	4.63 (IL)	3.60 (IM)	1.53 (IH)
16 Weeks	5.12 (IM)	4.12 (IH)	2.13 (AL)
26 Weeks	5.62 (IM)	4.65 (IH)	2.72 (AL)
52 Weeks	6.91 (IH)	6.03 (AM)	4.26 (AH)

Note. Post-test score is given in parentheses. IL = Intermediate Low, IM = Intermediate Mid, IH = Intermediate High, AL = Advanced Low, AM = Advanced Mid, AH = Advanced High.

Table D-36: Probability of Students at the Novice Mid and Intermediate Mid Levels Reaching Advanced Low Level, Swahili

Duration	Novice Mid	Intermediate Mid
6 Weeks	4%	8%
16 Weeks	10%	43%
26 Weeks	21%	86%
52 Weeks	73%	100%

Hindi

The coefficients and confidence intervals listed in Table D-37 demonstrate evidence of a relationship between language gain and the following variables: initial proficiency and duration overseas. Table D-38 illustrates the magnitudes of these relationships as predicted probabilities for language gain by students of Hindi who study overseas. The number of sublevel gains achieved by students of Hindi who begin with no experience or at a Novice or Intermediate level increases considerably the longer they remain abroad. Students of Hindi can expect to make a threshold gain during a study abroad program of a calendar year (Table D-38). Furthermore, Table D-39 demonstrates the high probability (99 percent) of a student of Hindi who begins at the Intermediate Mid level reaching Advanced Low within a calendar year of study overseas.

Table D-37: Summary of Analyses for Variables Predicting Gain in Oral Proficiency, Hindi (*N* = 48 students)

Variable	Coefficient	Confidence Interval
Intercept	.90	(–1.15 : 2.95)
Initial Proficiency	–.47*	(–0.63 : –0.31)
Duration	.05[a]	(0.01 : 0.08)
Interaction of Initial Proficiency and Duration	<.01	(–0.01 : 0.02)
Graduate	–.40	(–1.6 : 0.82)
Upperclassman	.22	(–0.75 : 1.19)
Gender (male)	.51	(–0.22 : 1.25)
Length of L2 Study	.01	(–0.07 : 0.09)
Length of L3 Study	.18	(–0.09 : 0.46)
Length of Target Language Study	.06	(–0.04 : 0.16)
Studied a Language Other than English	.87	(–0.51 : 2.24)
Random Effects		
Program	.00	<0.00 : <0.001)
Residual	1.18	(0.96 : 1.43)

Note. * indicates that p < .05; [a] indicates that .05 < p < .10

Table D-38: Language Sublevel Gains for No Experience, Novice Mid, and Intermediate Mid Levels, Hindi

Duration	No Experience	Novice Mid	Intermediate Mid
6 Weeks	4.42 (IL)	3.26 (IM)	0.75 (IM)
16 Weeks	4.69 (IL)	3.54 (IM)	1.25 (IH)
26 Weeks	4.87 (IL)	3.83 (IM)	1.75 (IH)
52 Weeks	5.31 (IM)	4.55 (IH)	3.05 (AM)

Note. Post-test score is given in parentheses. IL = Intermediate Low, IM = Intermediate Mid, IH = Intermediate High, AM = Advanced Mid.

Table D-39: Probability of Students at the Novice Mid and Intermediate Mid Levels Reaching Advanced Low Level, Hindi

Duration	Novice Mid	Intermediate Mid
6 Weeks	4%	9%
16 Weeks	10%	43%
26 Weeks	21%	86%
52 Weeks	73%	99%

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- **David L. Boren Fellowships:** Individual awards to U.S. graduate students to develop independent projects that combine study of language and culture in geographic areas strategic to U.S. national security with professional practical experiences;

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