Research in Progress

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The Center for Applied Linguistics (CAL) is a private, nonprofit organization dedicated to the application of research on language and culture to educational and societal concerns. Through its work in research, information dissemination, development of instructional materials and language tests, and professional development and technical assistance to schools, districts, and states, CAL serves as a liaison between the academic world of research and the practical world of language education and language-related concerns. CAL plays a leading role in articulating language- and culture-related issues that affect policy decisions; conducting research on language use, language learning, and effective teaching methods; and translating research into practical applications that help language learners succeed.

CAL is involved in a variety of research areas related to language, ranging across age, language background, and educational settings for language teaching and learning. Research studies are funded by the US government, private foundations, and state education agencies. The following summaries represent a selection of recent and ongoing research projects related to K-12 (elementary and secondary) English as a second language (ESL) education, and elementary through adult foreign language instruction. Within these two areas of language education research, CAL's work covers such topics as instructional methodology, language assessment, effective program models, and national trends in language learning. (For more information on CAL, visit www.cal.org.)

English language learners and language teaching

Vocabulary instruction and assessment for Spanish speakers (VIAS) is a five-year program of research conducted by investigators at CAL and at four collaborating colleges and universities that addresses vocabulary and literacy development in Spanish-speaking children who are learning English in Kindergarten through grade eight. The program includes four subprojects and a Research Core that focus on understanding the trajectory of vocabulary development, developing instructional interventions to enhance vocabulary knowledge and reading comprehension in English, and developing vocabulary assessments. One subproject headed by CAL researchers compares two approaches to vocabulary instruction for adolescent English-language learners (ELLs). One approach (monolingual) is delivered solely in English and does not make any reference to the fact that all target words are cognates, while the second approach (cross-linguistic) makes the use of cognates explicit and introduces the Spanish counterparts of target words, related roots, and affixes. Preliminary findings indicate that most students in the monolingual condition do not make cognate connections on their own, but students in both groups make comparable gains in their mastery of taught words. The

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second CAL-directed sub-project investigates the relationship between word characteristics and word difficulty for second-grade students. Findings indicate that English-proficient students outscored ELLs on measures of vocabulary, and that certain word-related variables, such as the number of letters and cognate status, affect word difficulty. In particular, more conceptually complex and higher grade-level words are more difficult to acquire for all students.

CAL is a partner in the national Center for Research on the Educational Achievement and Teaching of English Language Learners (CREATE), headquartered at the University of Houston. CREATE is coordinating a program of research related to the search for improved educational outcomes for ELLs in the middle grades (4–8). Two key contributions from CAL involve the science content area. *Project QuEST* (Quality English and Science Teaching) aims to improve the language and literacy development and knowledge of key science concepts of sixth grade ELLs. The study compares outcomes in English and science knowledge for ELLs (and non-ELL peers) who were taught two five-day units through either the traditional curriculum or the QuEST curriculum. To the resources used by the traditional curriculum, the QuEST curriculum added several components of instruction based research on effective instruction for ELLs, which resulted in higher post-test differences in science knowledge and vocabulary for both ELLs and English-proficient students in the treatment condition (August et al. 2009). The other project, *The impact of the SIOP model on middle school science and language learning*, is investigating professional development options and the effectiveness of the Sheltered Instruction Observation Protocol (SIOP) as a model of sheltered instruction for middle school ELLs. One phase compared teachers who received 2.5 days of SIOP professional development and SIOP science units with a control group of teachers whose instruction remained unchanged. Students in the SIOP group outperformed students in the comparison group on measures of science language skills (with mean differences approaching statistical significance). An ongoing phase of the research compares teachers who receive SIOP professional development and SIOP science lessons, those who receive SIOP professional development only, and a control group.

Academic literacy through sheltered instruction for English language learners in secondary schools was a project in which CAL researchers worked with middle and high school educators from the Clifton (NJ) Public Schools to investigate the relationship between professional development and student achievement through the collection and analysis of data on the implementation of the SIOP model. The goal of this research was a better understanding of the impact of SIOP-trained teachers on the academic performance of secondary ELLs. The project consisted of a three-year, quasi-experimental design (one SIOP district, separate comparison district) based on a professional development program including workshops and on-site coaching from part-time district coaches. Findings indicate that after one year of training at the SIOP site, 56% of Cohort 1 and 74% of Cohort 2 implemented the SIOP model to a high degree. After two years, 71% of Cohort 1 reached a high level of implementation. At the comparison site, where teachers did not receive professional development or coaching, only 5% of the teachers implemented features of the SIOP model at a high level after one year, and 17% after two years. On average, in the Treatment district, SIOP students outperformed non-SIOP students to a statistically significant level ($p<.05$) in both years, on the basis of a comparison of mean scores on tests of oral language, reading and writing (Short, Fidelman & Louguit, in review).

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In collaboration with the World-class Instructional Design and Assessment (WIDA) Consortium, CAL is developing math and science tests for beginning ELLs that are designed to meet state accountability requirements for testing in these content areas. The Obtaining Necessary Parity and Academic Rigor (ONPAR) assessments are computer-based tests that use the dynamic and interactive capabilities of the computer to reduce the use of English, while still maintaining the content rigor and cognitive complexity of parallel items on traditional tests. Math tests are developed for fourth and seventh graders, and science tests for fourth and eighth graders. Iterative cognitive lab trials at several points informed the development process, and final test items were field tested with a large population of students. Preceding the field testing, science items were trialed with smaller populations in controlled studies. These controlled studies informed questions related to the extent of language attenuation possible in ONPAR items and the question of how language attenuation relates to item accessibility. Emergent information related to research questions was integrated and addressed at each step in development, to inform subsequent item construction and piloting processes, and current data analysis evaluates the defensibility of these products. Findings from the ONPAR science controlled studies show promising evidence that the ONPAR items are more effective than traditional items for testing content knowledge for students of all English language proficiencies. Low-level ELL students are generally better able to demonstrate science knowledge on the ONPAR form. Further, non-ELL students perform similarly on the traditional and ONPAR items. These two results indicate that the ONPAR items are more effective for ELL students and also may validly measure science ability for all students. The math items are currently in the testing phase, so results are not yet available. Detailed findings of these lab trials and more information are available on the ONPAR website (www.onpar.us).

Through the use of survey and case study methods, the project *Exemplary programs for newcomer English language learners at the secondary level* aims to identify and describe programs that are effective in helping ELLs who are newcomers to the US succeed in middle and high school and beyond. Specifically, the project is investigating multiple approaches used by the programs to support the students' academic achievement, connect with social networks, and strengthen their educational and economic opportunities and civic integration. Data collection includes a national survey of newcomer programs to collect evidence of effectiveness and information about program practices, as well as case studies of effective programs using classroom observations and interviews. The survey of secondary school newcomer programs was conducted for the 2008–2009 school year and findings are published in an online database of 64 program profiles. The programs are located in 23 states and more than half are in urban settings. An ESL design is used by 88% of the programs in the database, and 59% are programs within schools. The case study phase of the project is continuing during the 2009–2010 school year.

CAL conducts rapid-response research studies to address the needs identified by state administrators and educators in the four states served by the Regional Education Laboratory (REL) Appalachia (Kentucky, Tennessee, Virginia, and West Virginia). CAL has completed two studies focused on districts with emerging ELL populations. In the first, CAL summarized information on the variations in the naming systems of different cultures (such as the relative order of family name and given name), and outlined guidance on database and registration procedures to accommodate differences in naming conventions across languages (Marcus,

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Adger & Arteagoitia 2007). In the second study, CAL researchers (1) analyzed state enrollment data to summarize growth in ELL enrollments and in the number of districts enrolling ELL students in the region; and (2) summarized findings from literature and interviews with district staff on how districts with emerging ELL populations build capacity to serve these students (Zehler et al. 2008). CAL is currently conducting a follow-up project investigating the use of technology-based resources for the instruction of ELLs in the four-state region.

Foreign language teaching

The *National K-12 Foreign Language Survey* is designed to show patterns and shifts over time in foreign language education in the United States in five key areas: amount of foreign language instruction, languages and types of programs offered, foreign language curriculum and instruction, teacher qualifications and training, and effects of education reform on language instruction (Rhodes & Pufahl 2009). Surveys have been conducted at ten-year intervals, providing detailed national and regional data about foreign language education at three points in time to date (1987, 1997, 2008). In the most recent survey, questionnaires were sent to a stratified random sample of more than 5,000 public and private elementary and secondary schools across the country. Data collection was completed in June 2008, with a 76% response rate. Survey data analysis examined various factors that influence language instruction, including school level (elementary or secondary), type of control (public or private), school locations, school size, socioeconomic status of students, minority student enrollment, and geographical region. Findings showed that the percentage of schools offering foreign language instruction remained relatively stable at the high school level from 1997 to 2008, but that the proportion decreased substantially over that time period in elementary and middle schools. Additionally, only a small percentage of the elementary and middle schools not teaching languages in 2008 planned to implement a language program within the next two years. These results have important implications for federal, state, and district level policymakers who plan and implement foreign language instruction in the United States.

The STARTALK program, part of the US government's National Security Language Initiative, aims to increase the number of Americans learning, speaking, and teaching critical-need foreign languages by offering summer language classes to students, and professional development to teachers, at sites throughout the United States (www.startalk.umd.edu). CAL has joined forces with with the National Foreign Language Center (NFLC) and the Center for Advanced Study of Language (CASL) to provide technical assistance, evaluation, and research support for the initiative. Since 2007, CAL has conducted annual program surveys to identify program-wide recommendations for program design, implementation, and evaluation. Methods include surveys of students and teacher trainees, which collect demographic information and monitor pre- to post-program changes in teachers' learning needs and student attitudes. Additionally, CAL is working with CASL to develop a Nationwide Assessment System for all STARTALK summer language programs. CAL's recent work included piloting assessments with high school students studying Arabic and Chinese to determine which approaches to language assessment produce useful information about the effectiveness of STARTALK language study. CAL also completed a curriculum compendium

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that examined the characteristics of STARTALK curricula across program sites, focusing on programs using different target languages and serving students of varied grades and proficiency levels.

The research project *TOEFL users' perceptions, beliefs, and attitudes toward the TOEFL® iBT* gathered data from undergraduate and graduate university students, teachers, and administrators in the United States and abroad to identify beliefs about the Test of English as a Foreign Language (TOEFL®) Internet-Based Test (iBT) as a measure of academic language ability in different contexts. Methodology for data collection included focus groups, Internet-based surveys, and stimulated recalls. Participants represented test-takers from outside and within the United States who were native speakers of German, Korean, and Arabic. Goals of the study included identifying beliefs about the test among different groups of test users, including students (test-takers), teachers and administrators, and comparing the beliefs of test-takers who have, and have not, been exposed to US-based instruction in university settings. Findings provided information regarding how users understand the construct underlying iBT tasks and the extent to which the beliefs of users abroad differ from those in the United States.

References

August, D., L. Branum-Martin, E. Cardenas-Hagan & D. J. Francis (2009). The impact of an instructional intervention on the science and language learning of middle grade English language learners. *Journal of Research on Educational Effectiveness* 2.4, 345–376.

Marcus, N., C. T. Adger & I. Arteagoitia (2007). *Registering students from language backgrounds other than English* (Issues & Answers Report, REL 2007–No. 025). Washington, DC: US Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=REL2007025.

Rhodes, N. & I. Pufahl (2009). *Foreign language teaching in US schools: Results of a national survey*. Washington, DC: Center for Applied Linguistics.

Short, D., C. Fidelman & M. Louguit (in review). Developing academic language in English language learners through sheltered instruction. Manuscript submitted for publication.

Zehler, A. M., C. T. Adger, C. Coburn, I. Arteagoitia, K. Williams & L. Jacobson (2008). *Preparing to serve English language learner students: School districts with emerging English language learner communities* (Issues & Answers Report, REL 2008–No. 049). Washington, DC: US Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=REL2008049.

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