

Center for Accelerated Language Acquisition (CALA) Test Scores: Another Look at the Value of Implicit Language Instruction through Comprehensible Input

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Abstract

This study highlights data gathered from accelerated language courses offered by the Center for Accelerated Language Acquisition (CALA). CALA uses various comprehensible input tools without explicit grammar instruction. In 2006-2008, CALA administered the National Spanish Exam to Tennessee Department of Children's Services (DCS) staff after a 5-day accelerated course (22.5 hours). On average, CALA/DCS participants had significantly higher scores per hour of instruction (1.25 points/hour) when compared to high school students with a year (~180 hours) of Spanish (0.20 points/hour). In 2013-2014, volunteers with no experience in the target language took the WebCAPE placement exam after the CALA Summer Language Institute (SLI) (10 days, 35 hours). On average, CALA/SLI participants scored as high as or higher than non-CALA students with 1-3 years of middle and/or high school instruction in the target language and were far superior in gains per hour. These results might encourage additional discussion about the power of implicit language instruction.

Of considerable interest to language teachers is the question of whether explicit or implicit instruction results in better second language (L2) learning. Explicit and implicit instruction have been defined by Norris and Ortega (2000) and those definitions later adopted by Spada and Tomita (2010) in their respective meta-analyses to answer this question. According to their definitions, instruction is explicit if “rule explanation comprise[s] part of the instruction” or if “learners [are] directly asked to attend to particular forms and to try to arrive at metalinguistic generalizations on their own.” By contrast, instruction is implicit if “neither rule presentation nor directions to attend to particular forms were part of a treatment.”

Both of their analyses suggest that explicit instruction results in better L2 learning. According to Norris and Ortega (2000), “the current state of findings within this research domain suggests that treatments involving an explicit focus on the rule-governed nature of L2 structures are more effective than treatments that do not include such a focus.” Spada and Tomita (2010) further concluded that explicit instruction not only resulted in greater gains with both simple and complex features but it also resulted in longer gains as evidenced by delayed posttest results.

Both Norris and Ortega (2000) and Spada and Tomita (2010) note, however, that “the measurement of change induced by instruction is typically carried out on instruments that seem to favor more explicit types of treatments by calling on explicit memory-based performance” (Norris & Ortega, 2000). Krashen (2003) agrees that “consciously learned knowledge can be displayed on tests of consciously learned knowledge,” but these types of tests inadequately measure a learner’s subconscious knowledge of the language’s grammar. Distinguishing conscious “learning” from this subconscious “acquisition,” Krashen (2003) cites a number of studies that suggest that implicit language instruction appealing to the latter has a “robust advantage” over explicit language instruction appealing to the former (e.g., Hammond, 1988; Isik, 2000; Nicola, 1990; Nikolov & Krashen, 1997; and Winitz, 1996). With a focus on comprehensible input, implicit language instruction “can produce both accuracy and fluency” (Krashen, 2003).

The present study corroborates this assertion with test score data collected over a period of eight years (2006-2014) by the Center for Accelerated Language Acquisition (CALA), a language instruction and teacher training program situated in the Honors College at Middle Tennessee State University (MTSU). The Center uses implicit language instruction that employs a variety of comprehensible input (CI) tools to present high-frequency vocabulary and to foster meaningful context for communication without the use of explicit grammar explanations, memorization, or drills. The CI tools used to present this vocabulary and L2 grammar include Total Physical Response (TPR) and Teaching Proficiency through Reading and Storytelling (TPRS)—as well interactive, hands-on activities such as group reading, instructor/participant conversation, comprehension questions, personal questions, songs, games, rituals, and other “brain-compatible” learning activities (see Jensen, 2003).

Data Sources: Partnerships and Participants

CALA/DCS

Between July 2006 and January 2008, the Tennessee Department of Children's Services (DCS) partnered with CALA through the Tennessee Center for Child Welfare at MTSU to deliver Spanish training to its case management and administrative staff in its field offices throughout the state. The training program (henceforth referred to as "CALA/DCS") featured 22.5 hours of language instruction and presupposed no prior knowledge of Spanish. A total of 325 participants, who ranged in age from 23 to 67, were tested using the National Spanish Exam (2002) at the conclusion of the 5-day course. As some (62.46%) reported having had at least one formal educational experience in Spanish during their lifetime, test scores have been separated (see Results).

CALA/SLI

After having taken two 5-day sessions of language (10 days, 35 hours of instruction) at the CALA 2013 and 2014 Summer Language Institutes (SLI) at MTSU, sixteen (16) participants volunteered to take the WebCAPE in Spanish, French, and German in the university's Foreign Languages and Literatures Department. These participants ranged in age from 13 to 70 (12 of 16 reported their age: mean 37.6 and median 37.0 years) and represented a wide variety of educational backgrounds: current middle/high school and college students; adults with high school diplomas, bachelor's, master's, and/or doctoral degrees. None of the participant volunteers who took the test had any exposure whatsoever to the target language prior to receiving the 35 hours of CALA instruction.

The Classroom Setting

Vocabulary and Grammar

CALA's core vocabulary set includes ~135 high-frequency words (excluding numbers 1-100): ~35 verbs (presented in present and past tense), ~45 nouns (representing the body, the family, the classroom, clothing, places, transportation, and other objects), ~20 adjectives (representing quality, quantity, color, and emotion), and ~35 other words (e.g., pronouns, prepositions, conjunctions,

adverbs, articles). The only contact with the language occurs in the classroom (there is no “homework”), and the entirety of the classroom experience is devoted to interactive, hands-on activities that foster goal-oriented, meaningful communication both between the instructor and participants and also among participants. No time or attention is dedicated to memorization or discrete grammar exercises, and the only “error correction” results from frequent feedback received from continual exposure to comprehensible input in the target language.

Format

The format for the first four days involved ~2.0 hours of vocabulary processing through TPR and other CALA brain-compatible learning activities followed by ~2.5 hours of further processing of the day’s vocabulary set through a TPRS story. The final day consisted of review of the first four days followed by reading of and processing activities for the first chapter of Blaine Ray’s Pobre Ana. At the conclusion of the 22.5-hour CALA/DCS course, participants’ learning was measured using the National Spanish Exam (2002) (see Results below).

The CALA/SLI courses shared the same format in their early years (2003-2008) but, between 2008 and 2013, they evolved in light of participant feedback and research on brain-based pedagogy. By 2013, CALA had made the following changes to the CALA/SLI curriculum:

- Front-loaded most of the concrete vocabulary and TPRS expressions into the first two (2) days of the 5-day class, using an enormous amount of TPR, movement, and multisensory input (e.g., pictures, songs, games, and carefully structured meaningful and personalized verbal processing)
- Reduced the number of TPRS stories in one 5-day session from four (4) to two (2) stories
- Reduced the number of TPRS stories in the second 5-day session from two (2) to one (1)
- Added more processing activities associated with each TPRS story
- Reduced the 5-day class from 22.5 hours to 17.5 hours
- Tested participant learning after two (2) 5-day periods (35 hours of instruction) instead of just one (1) 5-day period (results below)

At the conclusion of the 35-hour CALA/SLI course, participants volunteered to take the WebCAPE placement exam to assess their learning (see Results below).

Results

National Spanish Exam (NSE) 2002: CALA/DCS

Published by the American Association of Teachers of Spanish and Portuguese, the NSE (2002) is a 60-item multiple-choice test that assesses both listening comprehension and reading skills in Spanish. According to its publishing body, the mean score of high school students specially prepared to take Level 1 of the NSE after one year of instruction in Spanish (~180 hours) is 35.61 out of a possible 60 points.

After 5 days (22.5 hours) of instruction, participants in CALA/DCS Spanish earned an average of 28.16 (n = 325) on this test [24.34 (n = 122) for participants with no Spanish experience whatsoever and 30.46 (n = 203) for participants who reported having had at least one formal educational experience in Spanish during their lifetime]. As seen in Table 1, when these scores are considered in terms of points per hour of instruction, CALA/DCS participants after 22.5 hours of instruction earned an average of 1.25 points/hour (1.08 points per hour for participants with no Spanish experience whatsoever) compared to high school students after ~180.0 hours of instruction who earned an average of 0.20 points/hour. An unpaired, two-tailed t-test compared these per/hour gains for the total CALA/DCS population and for the CALA/DCS group with no prior instruction in the language to those of the total high school population, and the higher CALA/DCS per/hour gains were statistically significant for both groups ($p < 0.0001$; see Table 2).

WebCAPE Computer-Adaptive Placement Exam: CALA/SLI

Background. Developed at Brigham Young University, the WebCAPE is a computer-adaptive placement test used at universities across the United States to determine the language course into which incoming students are best placed, given their abilities in the language.

Method. CALA participant volunteer scores on the WebCAPE were compared to those of MTSU students with 1-5 years of experience in the target language (Spanish, French, or German) in junior high and/or high school. As the demographic and language experience backgrounds of students taking the tests varied greatly (e.g., on factors such as length of study, having lived where the target language is spoken, family members speaking the language at home, etc.),

the following conditions for the test taker (student) resulted in the exclusion of their associated test scores in order to create uniform comparison groups:

- Failure to complete background information (history with the target language)
- Presence of more than one (1) record of having taken the placement test
- Current enrollment in a class of the target language
- Use of the language in the home or by other family members
- Residence of more than six (6) months in a locale where the target language was spoken

These criteria applied, the present study considered at the mean score for all MTSU WebCAPE results taken at MTSU since May 2012: Spanish [$n = 100$ (the most recent 100 were selected)], French ($n = 79$), and German ($n = 25$).

Participant scores. As summarized in Table 3, all CALA/SLI participant volunteers tested out of at least one (1) semester and some even tested out of four (4)+ semesters of a college-level language class (no results were excluded, $n = 16$). As seen in Table 4, the mean score across all languages for the CALA/SLI participant volunteers who had only 35 hours of exposure [289.1 ($n = 16$)] exceeds those of non-CALA students at MTSU who reported having had 1-3 years of instruction in the target language [mean scores of 249.3 ($n = 17$; not statistically significant), 207.0 ($n = 55$, statistically significant, $p = 0.0014$), and 286.9 ($n = 59$, not statistically significant), respectively; see Table 6].

Discussion

With their conclusions regarding the greater effectiveness of explicit language instruction, Norris and Ortega (2000) and Spada and Tomito (2010) offered these two conciliatory points, respectively: (1) “No particular sub-types of L2 instructional delivery have been the subject of systematic replication sufficient for drawing cumulative inferences about their relative effectiveness” and (2) “[The greater effectiveness of explicit instruction] may be because implicit instruction takes a longer time to be effective and none of the studies in this meta-analysis included more than 10 hr of instruction.” The present article’s description of 22.5- and 35-hour implicit language instructional programs speaks to these two points. Perhaps it will lead to continued research and discussion on the possible merits of various sub-types of implicit L2 instructional delivery.

The results of this study provide further support for Krashen's "input/comprehension hypothesis" (2003). Without exposure to explicit instruction or *learning* about the language but, rather, implicit instruction with constant, meaningful, and varied comprehensible input, participants demonstrated their *acquisition* of the target language not only through impressive gains in their ability to engage in spontaneous communication in the target language during class, but also through their performance on the NSE and the WebCAPE (tests geared more toward assessing explicit language learning). As for the NSE, both CALA/DCS participant groups (all participants regardless of educational background and those never having had a formal educational experience Spanish) showed remarkable progress given the short time of instruction with greater per/hour gains than high school Spanish students nationally. As for the WebCAPE, CALA/SLI participants with no background in the target language who were taught exclusively with an abundance and variety of CI tools performed exceptionally well, showing that grammatical patterns can be successfully internalized in the absence of discrete grammatical explanations. The sample size included in this article ($n = 16$) is relatively small, so CALA intends to continue WebCAPE testing with more participants.

A few points should be made about the CALA results on the WebCAPE. Foremost, they should not be generalized to make any "implicit versus explicit" conclusions. The non-CALA students who took the test received 1-5 years of instruction prior to the test, but their methods of instruction are unknown, so their performance does not necessarily represent "the fruits of explicit language instruction." Instead, these results simply indicate that implicit language instruction can yield gains superior to those produced by explicit language instruction when assessed using "instruments that seem to favor more explicit types of treatments by calling on explicit memory-based performance" (Norris & Ortega, 2000). In addition, CALA mean scores on the WebCAPE were higher than those of non-CALA students with 1-3 years of instruction in the target language. The difference was statistically significant for those having received 2 years ($p = 0.0014$) but not for those having received 1 or 3 years of instruction (see Table 6). The mean scores of non-CALA participants were paradoxically lower for those having received 2 years of instruction than for those having received only 1 year of instruction. This was true both in the Spanish and French sub-groups (see Table 5). A larger sample size might have produced samples with mean scores that more closely matched expectation.

In the future, CALA intends to continue assessment of its implicit language training operation with both continued WebCAPE testing and also Oral Proficiency Interview (OPI) testing of ACTFL standards with its SLI participants—to assess learning both immediately following a training session and also at various intervals after training to gauge retention and fluency in the longer-term.

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Tables

Table 1

A Comparison of CALA and Non-CALA (High School) Results on the National Spanish Exam

Comparison of CALA/DCS participants to high school students after receiving 22.5 and ~180.0 hours of instruction in Spanish, respectively

<u>Student</u>	<u>Mean Score</u>	<u>Hours of Instruction</u>	<u>Points/Hour of Instruction</u>
CALA/DCS (total)	28.16	22.5	1.25
CALA/DCS (new*)	24.34	22.5	1.08
High School	35.61	~180.0	0.20

* (new) denotes that participants in this group had no experience whatsoever in Spanish prior to CALA/DCS course

Table 2

A Comparison of CALA and Non-CALA (High School) Results on the National Spanish Exam

Unpaired, two-tailed t-test comparison of CALA and non-CALA results vis-à-vis points/hour of instruction

<u>Student</u>	<u>Mean Score</u>	<u>Points/Hour of Instruction</u>	<u>n</u>	<u>SD</u>	<u>t</u>	<u>p</u>
CALA/DCS (total)	28.16	1.25	325	0.39	269.30	<0.0001
CALA/DCS (new)	24.34	1.08	122	0.28	178.36	<0.0001
High School	35.61	0.20	20,195	0.05	-	-

*Table 3**CALA participant volunteer WebCAPE results, SLI 2013 and 2014*

CALA results after 35 hours of CALA instruction (no background in target language)

<u>Student</u>	<u>Language</u>	<u>Total Score</u>	<u>Tested out of</u>	<u>Placed into</u>
1	Spanish	230	1 semester	2 nd semester
2	Spanish	173	1 semester	2 nd semester
3	Spanish	275	2 semesters	3 th semester
4	Spanish	317	3 semesters	4 th semester
5	Spanish	334	3 semesters	4 th semester
6	Spanish	302	3 semesters	4 th semester
7	Spanish	306	3 semesters	4 th semester
8	Spanish	358	3 semesters	4 th semester
9	Spanish	308	3 semesters	4 th semester
10	French	202	1 semester	2 nd semester
11	French	267	2 semesters	3 rd semester
12	French	311	3 semesters	4 th semester
13	French	373	4 semesters	*
14	German	219	1 semester	2 nd semester
15	German	283	2 semesters	3 rd semester
16	German	368	4 semesters	*

* At MTSU, students receiving scores over 360 are placed specially by the FLL Department Chair

*Table 4**A comparison of CALA and non-CALA (MTSU) results on the WebCAPE (overall)*

Mean WebCAPE scores and points/hour gain of CALA participant volunteers after 35 hours of instruction with those of MTSU (non-CALA) students with 1-5 years of instruction in the target language in junior high and/or high school (collectively represented as “HS”)

	<u>Mean Score</u>	<u>Hours Instruction</u>	<u>Points/Hour of Instruction</u>
CALA	289.1 (n = 16)	35	8.26
Non-CALA	249.3 (n = 17)	~180 (1 year HS)	1.39
Non-CALA	207.0 (n = 55)	~360 (2 years HS)	0.58
Non-CALA	286.9 (n = 59)	~540 (3 years HS)	0.53
Non-CALA	291.7 (n = 49)	~720 (4 years HS)	0.41
Non-CALA	336.5 (n = 24)	~900 (5 years HS)	0.37

*Table 5**A comparison of CALA and non-CALA (MTSU) results on the WebCAPE (by language)*

Mean WebCAPE scores of CALA participant volunteers after 35 hours of instruction with those of MTSU (non-CALA) students with 1-5 years of instruction in the target language (Spanish, French, and German) in junior high and/or high school (collectively represented as “HS”)

	<u>Hours Instruction</u>	<u>Spanish</u>	<u>French</u>	<u>German</u>
CALA	35	289.2 (n = 9)	288.3 (n = 4)	290.0 (n = 2)
Non-CALA	~180 (1 year HS)	271.1 (n = 10)	244.2 (n = 5)	153.0 (n = 2)
Non-CALA	~360 (2 years HS)	207.6 (n = 28)	177.3 (n = 16)	248.7 (n = 11)
Non-CALA	~540 (3 years HS)	286.3 (n = 26)	284.1 (n = 27)	302.0 (n = 6)
Non-CALA	~720 (4 years HS)	258.1 (n = 26)	310.8 (n = 19)	419.0 (n = 4)
Non-CALA	~900 (5 years HS)	339.1 (n = 10)	308.4 (n = 12)	492.5 (n = 2)

*Table 6**A comparison of CALA and non-CALA (MTSU) results on the WebCAPE*

Unpaired, two-tailed t-test comparison of CALA and non-CALA results vis-à-vis mean score

	<u>Mean Score</u>	<u>Hours of Instruction</u>	<u>n</u>	<u>SD</u>	<u>t</u>	<u>df</u>	<u>p</u>
CALA	289.1	35	16	59.04			-
Non- CALA	249.3	~180 (1 year HS)	17	124.42	1.1616	31	0.25
Non- CALA	207.0	~360 (2 years HS)	55	93.35	3.3204	69	0.0014
Non- CALA	286.9	~540 (3 years HS)	59	87.47	0.0947	73	0.93