

RESEARCH PAPER

Assessing Spanish Proficiency of Online Language Learners after Year 1

Rosalie S. Aldrich* and Dianne Burke Money Penny**
Indiana University East, USA

*Rosalie.Aldrich@gmail.com | **dburke01@iue.edu

Abstract

Online (OL) second language (L2) courses are becoming more widely offered in the United States; however, little information exists about the effectiveness of OL L2 courses beyond one semester or course. Therefore, the purpose of this study was to assess Spanish students' oral proficiency after completing one year of OL only L2 courses. At the end of year one, students ($n=65$) completed the Versant exam, which scored overall level of oral proficiency as well as four sub-categories: pronunciation, fluency, sentence formation, and vocabulary production. The results showed that 40% of OL Spanish students met the ACTFL benchmark of Intermediate-Low, while 49% scored Novice-High, one level below the benchmark. A portion (15%) of students not reaching Intermediate-Low scored within a few points of the benchmark. A majority of the students also met the benchmark for pronunciation and fluency, but not for sentence formation or vocabulary production. These results show that it is possible for students enrolled exclusively in online Spanish language classes to meet benchmarks. Thus, OL language students can and should be held to the same standards of oral proficiency as their peers in seated classrooms.

Keywords: Spanish; online language learning, ACTFL benchmarks, L2 acquisition/learning.

1. Introduction

As of 2013, approximately 46% of college students have taken an online course (OL), and that statistic continues to grow (Pappas, 2013). The Online Learning Consortium estimates 28% of all students – over 5.8 million – are currently taking an online course (2015). Second language (L2) courses are included in this growing trend. In fact, a 2016 market study forecasts an 8.6% increase specifically in online language course offerings by 2021 (Technavio, 2016). Although offerings of online language are increasing, Blake (2013) noted that most research in the field of Computer Assisted Language Learning has been conducted on the use of technology tools as part of a face-to-face (F2F) or hybrid curriculum, where students complete portions of the course in some combination of F2F and OL modes. The lack of research on the effectiveness of OL only L2 courses is presumably because fewer possible test subjects exist. Zhang echoes, “Research on online language teaching is still in its infancy compared to the rapid growth of the online language teaching practice” (2014, p. 68). With the need for studies focused specifically on OL L2 instruction, this analysis will center on the oral proficiency of students who enrolled exclusively in OL Spanish language courses at a small regional campus in the United States Midwest.

2. Online classrooms

There is some uncertainty about the OL classroom in general. For example, only 29.1% of faculty consider OL learning as effective as F2F (Allen & Seaman, 2016). Similarly, a Gallup poll conducted by *Inside Higher Ed* (2017) found that only 33% of faculty believe learning outcomes can be equivalent between the two modes, but there were large discrepancies between faculty with OL teaching experience and those without (see Table 1).

Faculty who agree that online courses are less effective in the...	OL experience	No OL experience
Ability to deliver the necessary content to meet learning objectives	37%	62%
Ability to answer student questions	47%	72%
Interaction with students during class	78%	92%
Interaction with students outside of class	48%	58%
Grading and communicating about grading	14%	32%
Ability to reach «at-risk» students	70%	87%
Ability to reach «exceptional» students	26%	58%
Ability to rigorously engage students in course material	43%	75%
Ability to maintain academic integrity	45%	71%

As Table 1 shows, professors who have OL experience feel less negatively about the OL mode of instruction. While some faculty may have negative perceptions of OL courses in general, studies show they are effective in terms of student engagement (Angelino & Natvig, 2009) and the development of knowledge and skills (Aronoff et al., 2017). Some research suggests that OL classes actually outperform F2F classes, across various disciplines (Angiello, 2010). Research suggests this is also the case for OL L2 classes. In fact, a majority of studies comparing OL and F2F outcomes reinforce the no significant difference phenomenon between the two course modes as described in the seminal study by Russell (1999).

3. Comparing class formats in language teaching

3.1. Computer assisted language learning in the F2F/hybrid classroom

While both traditional F2F and hybrid L2 classrooms include in-person interaction and instruction, use of technology can provide a significant advantage to reaching language learning outcomes (Plonksy & Ziegler, 2016). Technology has long been shown to aid L2 development with an enrichment of input, feedback, and communication (Sauro, 2011; Zhao, 2003). When referencing specific language skill sets (i.e., listening, speaking, reading, writing), Plonksy and Ziegler's (2016) meta-analysis found that technology in the L2 classroom can improve speaking, reading comprehension, vocabulary, grammar, and fluency. Furthermore, when OL tools are incorporated into F2F L2 classrooms, students increase pronunciation skills (Tanner & Landing, 2009), improve vocabulary,

sentence formation (Kim, 2014), and learner uptake (Heift, 2010), defined as responding to corrective feedback. Additionally, adding OL paired synchronous chats and wikis to a F2F class, aids in student L2 writing abilities (Oskoz & Elola, 2014).

Beyond skill-based benefits, learner awareness and autonomy have increased when OL tools were incorporated (Guillen, 2014). Additionally, using tools like OL chats can promote an equalization of participation and increased quantity and quality of L2 (Golonka, Bowles, Frank, Richardson, & Freynik, 2014). The learning advantages to text-based and oral OL communication are numerous. These interactions can occur beyond the time constraints of a timed F2F class session, and can provide further benefits by promoting interaction with native speakers, allow more time for comprehension, as well as help develop interlanguage. Further, transcripts of the sessions can be studied after the interaction to master other skills (O'Dowd, 2007). Clearly, these tools as part of a F2F/hybrid curriculum offer unique learning opportunities.

3.2. Online language classes

With regard to developing a strong OL L2 course, those conducted entirely without F2F contact, Sato, Chen, and Jourdain (2017) stress that discipline standards, task-driven design, and extensive use of multimedia platforms should be utilized to meet learning outcomes. Others express the need for extra instructional attention for less engaged, less adapted students, or those with lower computer literacy levels (Hong & Samimy, 2010; Mahfouz, 2010). When these considerations are accounted for in course design and implementation, OL courses can provide their own unique benefits in language learning and autonomy. For example, Volle (2005) observed significant gains in OL L2 learners' oral proficiency. In addition, independent learning skills can be specially promoted online via task-based instruction (Lee, 2016). It is true that the absence of F2F contact can create challenges, but Hauck and Stickler (2006) found increased L2 production with the OL format. The use of communication via text or video, common teaching strategies in OL classes, provides a sense of support and belonging, reducing isolation and insecurity that can occur OL (O'Dowd, 2007).

OL L2 courses are often examined in comparison to F2F or hybrid courses. These comparisons cover a wide range of skills and attitudes. For example, working in groups in the L2 environment was found to be more successful OL than in the hybrid model (Asoodar, Marandi, Atai, & Vaezi, 2014). English learners separated into hybrid and OL cohorts for a non-credit bearing course scored similarly on achievement tests and a satisfaction survey, but retention was better in the hybrid course (Harker & Koutsantoni, 2005). In general, when comparing OL and F2F modes of L2 learning, some researchers have found the two to be equivalent (Montiel, 2018), and others even found OL to be more effective in reaching learning outcomes (Grgurovic, Chapelle, & Shelley, 2013). When specifically examining oral proficiency, analyses again show equivalence or a small advantage of the OL format. For example, when proficiency was assessed in F2F and OL German courses, results showed comparable proficiency scores for the two groups (Isenberg, 2010). When OL Spanish was compared to F2F Spanish, studies suggest students' overall oral proficiency are not significantly different between the class modes (Blake, Wilson, Cetto, & Pardo-Ballester, 2008; Money Penny & Aldrich, 2016). OL Japanese students' performance on a simulated oral proficiency interview, when compared to a F2F cohort, was higher in every area (Sato et al., 2017).

While these studies generally show no significant difference between course formats, some researchers point to small sample sizes, poor study methodologies, and ultimately question the validity of OL L2 coursework (Felix, 2008; Zhao, 2003). Others believe that most online programs do not include adequate spoken contact between course members and instructors to promote oral proficiency (Lin & Warschauer, 2015). Furthermore, because of the wide degree of variance between OL L2 courses, from those that offer no synchronous language exchange to more developed offerings with significant interaction (Blake, 2015), it is indeed unwise to generalize the positive results that do exist. In short, our current knowledge in the field of OL L2 is still insufficient.

Much of the research that does exist on OL L2 courses focuses on outcome measures such as a course grade or learner achievement, not on oral proficiency (Van Deusen-Scholl, 2015). Research demonstrating scores on standardized tests and validated measures of proficiency across the spectrum of OL courses is needed (Tarone, 2015), with particular attention to oral proficiency (Blake 2015; Blake et al., 2008). Additionally, very few studies have reported language acquisition in the online setting beyond one semester or one class (Blake et al., 2008; Moneypenny & Aldrich, 2018). Nationally, 70% of students enrolled in Bachelor of Art's degree programs are required to complete two to four semesters of a second language (Lusin, 2012). Therefore, the data reported on one semester or on one class, although informative, limits the scope of knowledge related to the effectiveness of OL L2 courses to meet set educational outcomes and discipline benchmarks.

As demonstrated, there is a lack of research on OL L2 in general, a dearth of research on student proficiency levels in the OL L2 setting, and the need to examine proficiency standards beyond one class/semester; therefore, the following questions are put forth:

- *RQ1: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for overall oral proficiency?*
- *RQ2: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for pronunciation?*
- *RQ3: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for fluency?*
- *RQ4: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for oral sentence formation?*
- *RQ5: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for vocabulary production?*

4. Methods

4.1. Participants

Data were collected at a small regional campus in the United States' Midwest from undergraduate college students ($n=65$) who completed two semesters of first year Spanish language courses exclusively online. All students were required to complete an oral proficiency assessment, conducted by a third party, at the end of the year (i.e., second semester). Consent for their proficiency scores to be included in the study was voluntary and it was not linked to their course grade. This study was approved by the institution's IRB.

A majority of the participants identified as Caucasian ($n=55$, 84.6%) and female ($n=41$, 63.1%). Of the participants, 46 (70.8%) selected that they were not Hispanic/Latino/a. Participants ranged in age from 18 to 46 ($M=25.77$, $SD=7.09$), with a majority of participants ($n=39$, 60%) aged 18 to 23.

4.2. Procedures

Arriba's sixth edition of MySpanishLab was employed for several short audio/video comprehension exercises in the form of multiple-choice, true/false, and short answer questions. Each semester, students were also required to complete five small group conversation sessions with a teaching assistant via Zoom, a video-conferencing program, which lasted approximately half hour each. At the end of the first semester, students completed a one-on-one oral exam with the professor. During the second semester, this exam took place at midterm. Students also used asynchronous computer mediated communication to practice oral skills with three oral composition assignments each semester. Students were given a prompt and had to record a response and post it to the course discussion board in Canvas, a learning management software. The students were allowed to edit and re-record as many times as they desired before posting the final video for grading. Students were also required to comment on two other students' videos.

At the end of the second semester, students took the Pearson's Versant test to assess their oral proficiency skills. The Versant exam is based on the Theory of Automaticity (Cutler, 2003) and Levelt's (1989) Theory of Language Acquisition. The Versant exam correlates ($r=.86$) with the benchmarks developed through the American Council on the Teaching of Foreign Languages (ACTFL, 2016; Pearson, 2011).

Students completed the 15-minute exam over the telephone by responding to 63 questions. Employing a parser and speech recognition, the Versant exam measures two aspects of languages: manner (fluency and pronunciation) and content (sentence mastery and vocabulary) (Fox & Fraser, 2009). The average of these comprises the overall oral proficiency score. To assess pronunciation students read scripted sentences provided to them and repeated words they heard. Pauses, utterances, and words per minute were used to determine fluency scores as students responded to open-ended questions and retold stories. The ability to produce opposites, for example, to a prompt of "up," a student should respond "down," and answer short comparative questions were used to score the vocabulary section. Sentence formation was assessed when the students rearranged words to form sentences with correct syntax in Spanish. After one year of post-secondary language study, the proficiency benchmark set by ACTFL is Intermediate-Low (Versant scores ranging from 33 to 42).

4.3. Data analysis

The demographic and assessment data were analyzed using SPSS. The institution used in this study has multiple online Spanish language instructors who all use a common course shell to deliver the online class. In order to ensure that different instructors did not significantly influence proficiency scores, researchers controlled for this variable in a linear regression. The results indicate that neither the professor for semester one, nor the professor for semester two significantly predicted overall Versant scores, $F(2, 62)=.14$, $p=.87$, $R^2=.004$ (see Table 2).

Table 2. Results from linear regression semester one and semester two instructors

	<i>B</i>	<i>SE B</i>	<i>β</i>
Constant	31.559	2.690	
Professor for 1st semester Spanish	-.014	.283	-.007
Professor for 2nd semester Spanish	.166	.329	.069

5. Results

5.1. Oral Proficiency

Overall Versant scores were examined to answer the first research question, *After completing one year of online college Spanish, do students meet the ACTFL benchmarks for overall oral proficiency?* Versant test scores ranged from 20 to 60 with an average score of 32.60 ($SD=9.70$). Results show that 40% ($n=26$) of students achieved oral proficiency at or above the ACTFL benchmark range of Intermediate-Low (33-42) (see Table 3). However, a majority of the students achieved oral proficiency levels below the ACTFL benchmark ($n=7$, Novice-Mid; $n=32$, Novice-High); It should be noted that nearly one third ($n=10$) of the students below the benchmark were within two points of the Intermediate-Low threshold.

Table 3. Overall Versant results after two semesters

ACTFL Level	Versant Overall Score	Students Scoring in Range
Novice-Mid	20-22	$n =7$, 10.8%
Novice-High	23-32	$n =32$, 49%
Intermediate-Low*	33-42	$n =15$, 23%
Intermediate-Mid	43-52	$n =8$, 12.3%
Intermediate-High	53-62	$n =3$, 4.6%
Advanced-Low	63-72	$n =0$, 0%

*ACTFL Benchmark for end of year 1

5.2. Pronunciation

Pronunciation scores were analyzed to address *RQ2: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for pronunciation?* Pronunciation scores ranged widely from 26 to 71 ($M=41.98$, $SD=8.41$). A vast majority of the OL Spanish students met or exceeded the ACTFL benchmark for pronunciation ($n=58$, 89%) at the end of the first year of Spanish.

5.3. Fluency

Fluency was addressed in *RQ3: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for fluency?* Students' fluency scores ranged from 20 to 58 with a mean score of 34.63 ($SD=10.50$). At the end of semester two a majority of students ($n=36$, 55.3%) met or exceeded the ACTFL benchmark for fluency. Additionally, six students were two or fewer points from achieving the Intermediate-Low benchmark.

5.4. Sentence formation

The next Versant sub-category, sentence formation, was explored in *RQ4: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for sentence formation?* Sentence formation scores ranged from 20 to 65 with a mean of 30.80 ($SD=12.37$), which is below the ACTFL benchmark. Only 29% ($n=22$) of students met or exceeded the Intermediate-Low threshold. Five students were within two or fewer points from achieving the benchmark in sentence formation.

5.5. Vocabulary

Last, vocabulary was examined in *RQ5: After completing one year of online college Spanish, do students meet the ACTFL benchmarks for vocabulary production?* Vocabulary scores ranged from 20 to 66 ($M=27.89$, $SD=9.49$). A large majority of students ($n=48$, 73.8%) did not meet the vocabulary benchmark score of 33. However, 32% ($n=21$) scored in the Novice-High range, one level below the benchmark.

6. Discussion

The purpose of this study was to assess specific skill sets related to oral proficiency of students who progressed through one year of an exclusively OL language curriculum. Regardless of course format, ACTFL identifies a guidepost for language abilities compared to the length of L2 study. One measure of OL L2 effectiveness is to compare language proficiency results to the ACTFL benchmarks. In this sense, the benchmark proficiency level serves as the control, and allows a comparative assessment of the efficacy of OL language programs.

The results of this study indicate a mixed level of achievement. Pronunciation and fluency skills were mastered to the benchmark level or beyond for a majority of students. However, sentence formation and vocabulary were only mastered by 29% and 16% of online students after one year of study. This indicates that students perform well on skills related to manner and less well on skills related to content, as defined by Fox and Fraser (2009), which is not uncommon in any language course, irrespective of format. For example, González-Lloret and Nielson (2015) employed the Versant as a pre and post assessment of F2F language teaching, and also found lower scores in these two specific areas on both the pre and posttests. Additionally, Money Penny and Aldrich (2018) reported Versant vocabulary mean scores of 29.38 after one year and 35.16 after two years of mixed OL/F2F language study. Researchers often do not report the Versant subscores for the hybrid and OL first year courses; however, they do indicate a first year

overall Versant for Spanish with averages varying but similar to the outcomes indicated in this study (Blake, 2008; González-Lloret & Nielson, 2015). Similar overall Versant scores were reported, when F2F and hybrid courses were examined (Isabelli, 2013).

The findings of this study are in line with others, students are meeting the oral proficiency benchmarks with varied levels of success (Blake et al. 2008; Money Penny & Aldrich, 2016). Many of those who did not score to standard were only a few points away from the Intermediate-Low ranking. The natural question arising from these results is how to move more students across the threshold into intermediate proficiency after year one. As pedagogical research shows, greater familiarity with the test formats beforehand would likely aid some students (Jackson & McGlinn, 2000). For example, the assessments in the course do not require that students orally produce opposites in response to oral prompts and many of the course vocabulary exercises are in written format. This is also the case for sentence formation. As part of coursework, students often write sentences in exercises where they are given the component pieces to construct. However, these prompts are not oral in the course, nor is an oral response required. Besides dedicating more time to practicing vocabulary and sentence formation in general, revising the course so that students practice these skills orally will likely increase familiarity and reduce exam anxiety when students are also asked to perform these tasks on the Versant at the end of the semester.

Increased exposure to L2 is always a good idea in the language classroom. It could be that requiring more than five small group conversation sessions would increase proficiency. However, requiring more synchronous sessions could overload students looking for the flexibility of an OL course. Perhaps addressing the structure of the sessions themselves would be beneficial. Incorporating short warm-up activities where students practice producing opposites and reconstruct sentences in response to oral prompts may provide the practice those students, especially those near the benchmark, need. This is an interesting area for future investigation.

Research conducted on entirely OL language courses is rare. Most studies examine technology use and its effects in hybrid and F2F modes of instruction. In many ways, this is because few institutions offer online only second language instruction, though the number is growing. The assessment data of post-secondary students who have not been exposed to a F2F foreign language classroom as part of their college experience is incredibly valuable because of its scarcity. The results of the current study show that it is possible for students enrolled exclusively in OL Spanish language classes to meet the standards of oral proficiency level benchmarks established by a national professional organization. Thus, OL language students can and should be held to the same standards of oral proficiency as their peers in the F2F classroom.

References

Allen, I. E., & Seaman, J. (2016). Online report card: Tracking online education in the United States. *Babson Survey Research Group*. <http://www.babson.edu/Academics/centers/blank-center/global-research/Pages/babson-survey-research-group.aspx>

American Council on the Teaching of Foreign Language. (2016). *Oral Proficiency in the Workplace*. Alexandria, VA: ACTFL Proficiency Guidelines

2012. <https://www.actfl.org/publications/guidelines-and-manuals/actfl-proficiency-guidelines-2012>

Angelino, L. M., & Natvig, D. (2009). A conceptual model for engagement of the online learner. *Journal of Educators Online*, 6, 1-19.

Angiello, R. (2010). Study looks at online learning vs. traditional instruction. *The Education Digest: Essential readings condensed for quick review*, 76, 56-59.

Aronoff, N., Stellrecht, E., Lyons, A. G., Zafron, M. L., Glogowski, M., Grabowski, J., & Ohtake, P. J. (2017). Teaching evidence-based practice principles to prepare health professions students for an interpersonal learning experience. *Journal of the Medical Library Association*, 105, 376-384. doi.org/10.5195/jmla.2017.179

Asoodar, M., Marandi, S. S., Atai, M. R., & Vaezi, S. (2014). Learner reflections in virtual vs. blended EAP classes. *Computers in Human Behavior*, 41, 533-543. doi.org/10.1016/j.chb.2014.09.050

Blake, R. (2013). *Brave new digital classroom: Technology and foreign language learning*. Washington, DC: Georgetown University Press.

Blake, R. (2015). The messy task of evaluating proficiency in online language courses. *The Modern Language Journal*, 99, 408-412. doi.org/10.1111/modl.12234 5

Blake, R., Wilson, N. L., Cetto, M., & Pardo-Ballester, C. (2008). Measuring oral proficiency in distance, face-to-face, and blended classrooms. *Language Learning & Technology*, 12, 114-127.

Cutler, A. (2003). Lexical access. In L. Nadel (Ed.), *Encyclopedia of cognitive science* (Vol. 2), *Epilepsy – Mental imagery, philosophical issues about* (pp. 858-864). London: Nature Publishing Group.

Felix, U. (2008). The unreasonable effectiveness of CALL: What have we learned in two decades of research? *ReCALL*, 20, 141-161.

Fox, J., & Fraser, W. (2009). Test review: The Versant Spanish Test. *Language Testing*, 26, 313-322. doi.org/10.1177/02655322090260020602

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: a review of technology types and their effectiveness. *Computer Assisted Language Learning*, 27, 70-105. doi.org/10.1080/09588221.2012.700315

González-Lloret, M., & Nielson, K. B. (2015). Evaluating TBLT: The case of a task-based Spanish program. *Language Teaching Research*, 19, 525-549. doi.org/10.1177/1362168814541745

Grgurović, M., Chapelle, C. A., & Shelley, M. C. (2013). A meta-analysis of effectiveness studies on computer technology-supported language learning. *ReCALL*, 25, 165-198. doi.org/10.1017/S0958344013000013

Guillén, G. (2014). Expanding the language classroom: Linguistic gains and learning opportunities through e-tandems and social networks. Dissertation. UC Davis, Davis, CA.

Harker, M., & Koutsantoni, D. (2005). Can it be as effective? Distance versus blended learning in a web-based EAP programme. *ReCALL*, 17, 197-216. doi.org/10.1017/S095834400500042X

Hauck, M., & Stickler, U. (2006). What does it take to teach online? *CALICO*, 23, 463-475. [doi:10.1558/cj.v23i3.463-475](https://doi.org/10.1558/cj.v23i3.463-475)

Heift, T. (2010). Prompting in CALL: A longitudinal study of learner uptake. *Modern Language Journal*, 94, 198-216. doi.org/10.1111/j.1540-4781.2010.01017.x

Hong, K. H., & Samimy, K. K. (2010). The influence of L2 teachers' use of CALL modes on language learners' reactions to blended learning. *CALICO*, 27, 328.

Inside Higher Ed (2017). *Survey of Faculty Attitudes on Technology*. <https://www.insidehighered.com/booklet/2017-survey-faculty-attitudes-technology>

Isabelli, C. A. (2013). *Student learning outcomes in hybrid and face-to-face beginning Spanish language courses*. Paper presented at The Future of Education. Florence, Italy. Retrieved from <https://conference.pixel-online.net/FOE/conferenceproceedings.php>

Isenberg, N.A. (2010). *A comparative study of developmental outcomes in web-based and classroom-based German language education at the post-secondary level: Vocabulary, grammar, language processing, and oral proficiency development* (Doctoral dissertation). (UMI. 3420155).

Jackson, E. W., & McGlenn, S. (2000). Know the test: One component of test preparation. *Journal of College Reading and Learning*, 31, 84-93. doi.org/10.1080/10790195.2000.10850104

Kim, S. (2014). Developing autonomous learning for oral proficiency using digital storytelling. *Language Learning & Technology*, 18, 20-35.

Lee, L. (2016). Autonomous learning through task-based instruction in fully online language courses. *Language Learning & Technology*, 20, 81-97.

Levelt, W. (1989). *Speaking: From intention to articulation*. Cambridge, MA: MIT Press.

Lin, C., & Warschauer, M. (2015). Online foreign language education: What are the proficiency outcomes? *The Modern Language Journal*, 99, 394-397. doi.org/10.1111/modl.12234_1

Lusin, N. (2012). The MLA survey of postsecondary entrance and degree requirements for languages other than English, 2009-10. New York: Modern Language Association. https://www.mla.org/content/download/3316/81618/requirements_survey_200910.pdf

Mahfouz, S. M. (2010). A study of Jordanian university students' perceptions of using email exchanges with native English keypals for improving their writing competency. *CALICO*, 27, 393-408. doi.org/10.1080/09588220902920151

Money Penny, D., & Aldrich R. S. (2016). Online and face-to-face language learning: A comparative analysis of oral proficiency in introductory Spanish. *Journal of Educators Online* 13 (2), 105-133.

Money Penny, D., & Aldrich, R. S. (2018). Developing oral proficiency in Spanish across class modalities. *CALICO: Computer-Assisted Language Instruction Consortium*, 35, 257-273. doi:10.1558/cj.34094.

Montiel, M. L. (2018). *Comparing online English language learning and face-to-face English language learning at El Bosque University in Colombia*. Richmond, VA: Virginia Commonwealth University.

O'Dowd, R. (2007). *Online intercultural exchange: An introduction for foreign language teachers*. Clevedon, UK: Multilingual Matters.

Online Learning Consortium. (2015). Online report card: Tracking online education in the United States. <https://onlinelearningconsortium.org/read/online-report-card-tracking-online-education-united-states-2015/>

Oskoz, A., & Elola, I. (2014). Promoting foreign language collaborative writing through the use of Web 2.0 tools. In González-Lloret, M. & Ortega L. (eds.), *Technology and tasks: Exploring technology-mediated TBLT*. New York: John Benjamins, 115-148. doi.org/10.1075/tblt.6.05osk

Pappas, C. (2013). Top 10 e-learning statistics for 2014 that you need to know. <https://elearningindustry.com/top-10-e-learning-statistics-for-2014-you-need-to-know>.

Pearson (2011). Versant™ Spanish Test. Test description and validation summary. <http://www.versanttest.com/technology/VersantSpanishTestValidation.pdf>

Plonsky, L., & Ziegler, N. (2016). The CALL-SLA interface: Insights from a second-order synthesis. *Language Learning & Technology*, 20, 17-37.

Russell, T. (1999). *The no significant difference phenomenon*. Chapel Hill, NC: Office of Instructional Telecommunications, University of North Carolina.

Sato, E., Chen, J. C. C., & Jourdain, S. (2017). Integrating digital technology in an intensive, fully online college course for Japanese beginning learners: A standards-based, performance-driven approach. *The Modern Language Journal*, 101, 756-775.

Sauro, S. (2011). SCMC for SLA: A research synthesis. *CALICO*, 28, 369–391. doi.org/10.11139/cj.28.2.369-391

Tanner, M. W., & Landing, M. L. (2009). The effects of computer-assisted pronunciation readings on ESL learners' use of pausing, stress, intonation, and overall comprehensibility. *Language Learning & Technology*, 13, 51-65.

Tarone, E. (2015). Point-counter point measuring proficiency outcomes in online foreign language education. *The Modern Language Journal*, 99, 633-634.

Technavio (2016). *Online language learning market in the US 2017-2021*. <https://www.technavio.com/report/>

Van Deusen-Scholl, N. (2015). Assessing outcomes in online foreign language education. *The Modern Languages Journal*, 99, 398-400.

Volle, L. (2005). Analyzing oral skills in voice e-mail and online interviews. *Language Learning & Technology*, 9, 146-163.

Zhang, S. (2014). An evidence based guide to designing and developing Chinese-as-a-foreign-language (CFL) courses online. *International Journal of Technology in Teaching and Learning*, 10, 52–71.

Zhao, Y. (2003). Recent developments in technology and language learning: A literature review and meta-analysis. *CALICO*, 21, 7-27.