

APPLIED LANGUAGE LEARNING



Applied Language Learning



Applied Language Learning

*Volume 29, Numbers 1 & 2
2019*

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Presidio of Monterey

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Applied Language Learning

PB 65-19-01-02

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Additionally, you may obtain the journal on microfilm from ERIC Clearinghouse on Language and Linguistics, Center for Applied Linguistics, 1118 22nd Street, NW, Washington, DC 20037.

Postmaster

Send change-of-address information to:

Applied Language Learning
Defense Language Institute Foreign Language Center
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United Parcel Service Customers

Location is:

Applied Language Learning
Bldg. 614, Room 243
Presidio of Monterey, CA 93944-5006

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Applied Language Learning

Volume 29, Numbers 1-2, 2019

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THANK YOU REVIEWERS

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A Descriptive Study of Learning Styles and Teaching Strategy Preferences of Mandarin Chinese Teachers at the DLIFLC

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Abundant research has been conducted on the relationship between student learning styles and teacher teaching styles. However, the research on the relationship between teachers' learning styles and their choice of instructional strategies is scarce. To understand this relationship better, this study seeks to learn whether there is a statistically significant correlation between Mandarin Chinese teachers' learning styles and their teaching strategy preferences. Using a correlational design, this study administered two surveys to 70 Mandarin Chinese teachers in an intensive language training program. The relationship between teachers' learning styles and their preferred teaching strategies was examined through ANOVA and analysis of descriptive data. The results did not indicate a statistically significant correlation between teachers' learning styles and their strategy choices. Nevertheless, a study of the descriptive data revealed that the teachers tended to choose teaching strategies that matched their learning styles for certain aspects of Chinese language instruction such as grammar. The findings of the study may raise language teachers' awareness of their learning styles and provide them useful information regarding their choice of teaching strategies. Program managers and faculty trainers engaged in faculty development may also find the study's findings informative.

Keywords: *Learning style, teaching strategy preferences, classroom management, teaching approach, self-reflection and awareness, SPSS (Statistical Package for the Social Sciences), correlation, statistically significant correlations, and pedagogical implications*

INTRODUCTION

Teachers' instructional strategies are closely related to students' learning outcomes. Even though various factors are involved in a teacher's choice of instructional strategies such as curriculum, standards, teaching philosophy, socialcultural issues, and the students, the decision to choose strategies must be guided by a characteristic or cognitive process (Gregorc, 2010; Levine, 2002; Willis, 2006). This guiding characteristic or cognitive process is a teacher's particular learning style, as an individual tends to make decisions that are sensible and complement his or her comprehension of a task or process (Dunn & Dunn, 2010). In other words, individuals tend to assume that the methodology which is in best agreement with their own learning styles must also work best for others (Gregorc, 2010), and it is logical to assume that teachers may make instructional decisions based on personal learning styles. Such an assumption, however, must pass empirical muster. Research on the relationship between teachers' learning styles and their choice of instructional strategies (e.g., Bantwini, 2015) is scarce, further investigation of learning style is, therefore, needed. The current study was conducted to examine the relationship between teachers' teaching strategy preferences and their learning styles in an intensive language training program. It was a correlational study with two surveys administered to measure teachers' teaching strategy preferences and their learning styles. The descriptive data were analyzed to compare differences among groups of teachers with different learning styles in their choice of instructional strategies.

LITERATURE REVIEW

Keefe and Ferrell (1990) defined learning styles as the "composite of characteristic cognitive, affective and psychological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment" (p.59). According to some theorists, learning styles is an umbrella term that covers the cognitive, affective, and psychomotor domains of the way people make new information their own (e.g., Keefe, 1987). Considerable research (e.g., Arthurs, 2007; Massa and Mayer, 2006; Akbari and Allvar, 2010) has examined the role that learning styles play in learning and instruction.

Students' learning style is believed to indicate the best direction for teachers to pursue in the implementation of instructional strategies (Kazu, 2009; Vondracek, 2009). Accordingly, one line of the research on the role of learning styles in learning and instruction focused on whether matching teaching strategies with students' learning styles leads to higher academic achievement. The findings of these studies have been inconsistent. Some studies found that the adjustment of instructional strategies according to students' learning styles enhances academic achievement (e.g., Arthurs, 2007; Beck, 2001; Felder and Brent, 2005; Naimie, Siraj, Piaw, Shagholi, & Abuzaid, 2010; and Rogers, 2009). Others suggested that matching students' learning styles and instructional strategies does

not affect learning outcomes (e.g., Rogowsky, Calhoun, & Tallal, 2015; Massa and Mayer, 2006; Scott, 2010). For example, Rogowsky et al. (2015) failed to show a statistically significant relationship between learning style preference (auditory, visual word) and instructional method (audiobook, e-text) for either immediate or delayed listening and reading comprehension tests. Further, some studies showed that the disagreement between teaching strategies and students' preferred learning styles may have beneficial effects on learning outcomes (Cavanagh and Coffin, 1994; Kowoser and Berman, 1996).

Some researchers, however, question whether it is an effective practice to base instructional strategies solely upon the learning styles of the students without considering which instructional strategies the teachers are mostly likely to employ (Coldren & Hively, 2009; Krasha & Harris, 2007). There are those (e.g., Gregorc, 2010) who believe that a correlation exists between teachers' personal learning styles, instructional process, and choice of instructional strategy. Gregorc (2010) argued that teaching style is a direct reflection of the cognitive processes one employs in the dissemination of information. It is through the knowledge of one's own learning style or mind style that an educator begins to recognize how learning style is reflected in his or her teaching style and instructional choices. Once teachers become attuned to the causes and biases of their choices, they should develop tolerance for, and understanding of, learning style needs.

Gregorc (2010) provided a strong theoretical rationale for the need to examine the relationship between teachers' learning styles and their choice of instructional strategies, especially when considering that research has shown that teaching style is an important predictor of students' learning outcomes (Akbari & Allvar, 2010). Akbari and Allvar (2010), for example, studied the relationship a teacher's teaching style has with the academic achievement of English language learners. Quantitative and qualitative analyses of the data has indicated that *Intellectual Excitement*—one component of teaching style, which focuses on the content to be learned, the clarity of what is being presented, and how it is being presented—has a high correlation with student achievement outcomes. He concluded that teacher's teaching style (Intellectual Excitement), along with efficacy and reflectivity, could be employed as effective predictors of student achievement. As previously mentioned, a teacher's teaching style, reflected by his or her choice of instructional strategies, may be affected by his or her learning style. A review of literature, however, revealed that the research on the relationship between teachers' learning styles and their choice of instructional strategies is scarce. In fact, only one study directly examined the relationship between a teacher's learning styles and his or her classroom teaching and learning practices (Bantwini, 2015).

Bantwini (2015), examined the relationship between teachers' learning styles and their classroom learning and teaching practices. The mixed method study was conducted in various school districts in a large province in South Africa. A questionnaire was administered to 108 primary school natural science teachers to determine how they learned and perceived their learning, and how their beliefs about their learning process influenced their classroom teaching. It also

investigated how teachers taught natural science in the classroom through class observations to establish whether learning styles influenced teaching and learning in their classrooms. Findings from the questionnaire showed that most teachers preferred or learned better partly through visual, active, sequential, and intuitive learning styles. Analysis of classroom observations showed that the teachers' proclaimed learning styles were not transferred into their classroom teaching practice. The researcher concludes that the teachers' learning styles do not necessarily shape or influence teaching practices. Various issues might affect teachers' ability to match teaching strategies to their preferred learning styles, and these include teaching context, class size, available teaching resources, and school policies.

Bantwini's (2015) study was conducted in a science class. Therefore, the findings may not be applicable to language study. It is possible that in a language learning setting, teachers' learning styles have more influence on their choice of instructional strategies. To understand the relationship between teachers' learning styles and their choice of instructional strategies, the current study was conducted to examine whether a statistically significant correlation exists between teachers' learning styles and their teaching strategy preferences among the teachers of the Mandarin Chinese language at the Defense Language Institute Foreign Language Center (DLIFLC).

METHOD

Participants

A roster was compiled for the 153 full-time teachers in the Mandarin Chinese program at the DLIFLC, excluding administrators and those who were not teaching students everyday, to ensure the validity of the study. The names of the teachers were listed in random order and each was assigned a number. We created a random number table for 70 subjects by using an online random number table generator. Finally, we selected subjects according to the numbers on the random number table. Consent forms were issued to, and signed by, the 70 subjects.

Materials

We used two surveys to study the subjects' learning styles and their preferences of teaching strategies in Mandarin Chinese-language classrooms. For learning style, the *Barsch Learning Style Inventory* was employed, whereas for teachers' teaching strategy preferences, we adapted questions from the questionnaire used in Wu and Duan's (2016) study and designed remaining questions ourselves. The 55 questions in the *Survey of Chinese Teachers' Teaching Preferences* are divided into seven sections, as follows: Section 1 (Q1-Q12) focuses on grammar instruction strategies; section 2 (Q13-Q18) on text teaching methods; section 3 (Q19-Q21) on listening instruction approaches;

section 4 (Q22-Q30) on classroom activities; section 5 (Q31-Q38) on question-asking strategies; section 6 (Q39-Q45) on the use of technology in classrooms; and section 7 (Q46-Q55) on classroom management strategies. Before the surveys were conducted, a consent form was signed by all participants. They provided their names on the consent form, but not on the surveys that were collected and stored separately to ensure that responses remained anonymous.

Research Questions and Data Analysis

The research questions were the following:

Q1: Is there a statistically significant correlation between Mandarin Chinese teachers’ learning styles and their teaching strategy preferences?

Q2: What are the factors affecting a teacher’s choice of teaching strategies in the Mandarin Chinese classroom?

To test the correlation between the teachers’ learning styles and their teaching strategy preferences, we ran the One-way ANOVA test. Descriptive tests such as frequency and percentage were run, whereas for group differences on the seven sections in the teaching strategy survey, the Compare Mean test was employed.

RESEARCH FINDINGS

When entering raw data into the Excel file processed by the SPSS (Statistical Package for the Social Sciences), we coded AD for Auditory Learners; KS for Kinesthetic Learners; VS for Visual Learners; A for learners between the ages of 25 and 34; B for those between 35 and 44; C for those between 45 and 54; D for 55 or older; M for males; F for female participants; and 9 for the value of unanswered questions. We distributed 70 surveys and collected 60, which is 86% of the originally targeted subjects. The demographic data for the participants, including gender, learning styles, and ages, are provided in Table 1:

Table 1
Participants’ Demographic Data (n=60)

<i>Gender</i>		<i>Learning Style</i>				<i>Age</i>			
F	M	AD	KS	VS	VS/AD	25-34	35-44	45-54	55 or higher
40	20	12	10	33	5	10	14	17	19

Note: F = female, M = male, AD = auditory learners, KS = kinesthetic learners, VS = visual learners

Group Difference on Grammar Instruction Strategies

As stated in the research design above, the 55 questions in the *Chinese Teaching Strategy Preference Survey* are divided into different sections to study the teachers' teaching strategy preferences in different aspects of Mandarin Chinese language instruction. The first section of survey questions (Q1-Q2) examined grammar instruction approaches adopted by teachers in different groups of learning styles.

Table 2
Grammar Instructional Approaches by Teachers of Different Learning Styles

Question	Learning Styles									
	AD (n=12)		KS (n=10)		VS (n=33)		VS/AD (n=5)		Total (n=60)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Q1	3.00	.85	3.60	1.08	3.73	.92	3.20	1.10	3.52	.97
Q2	3.42	.79	4.20	.79	4.33	.74	3.60	1.14	4.07	.86
Q3	3.08	.90	3.60	1.27	3.70	.92	4.20	.84	3.60	.10
Q4	3.83	1.19	3.60	1.08	3.58	.71	3.40	.55	3.62	.87
Q5	2.83	.94	3.50	1.08	3.55	.83	3.00	.00	3.35	.90
Q6	4.25	.87	4.00	.94	4.33	.77	4.00	.71	4.23	.81
Q7	2.33	.49	2.50	.85	3.03	1.02	3.00	.71	2.80	.92
Q8	2.00	.60	1.70	.82	2.18	.95	2.20	.84	2.07	.86
Q9	3.75	.62	4.30	.82	3.94	.70	4.20	1.10	3.98	.75
Q10	3.83	.72	4.50	.85	4.06	.75	4.00	1.41	4.08	.83
Q11	4.08	.67	4.40	.84	3.94	.79	4.00	1.00	4.05	.79
Q12	3.42	1.24	3.40	.97	3.42	.87	3.60	1.14	3.43	.96

The results in Table 2 show that KS and VS learners are more likely to use abstract symbols, graphs, formulas, or a deductive approach when explaining grammar points to the students. AD or VS/AD learners, on the other hand, tend to explain grammar points verbally or by an inductive approach. All four groups of subjects expect the students to follow the grammar rules strictly when practicing. The results also show that VS and VS/AD teachers are more likely to practice the grammar points repeatedly and to summarize the learned grammar points, whereas KS and AD teachers tend to repeat grammar points verbally to help students review. KS teachers tend to compare and contrast grammar points learned. Participants in all four groups use students as examples in classroom instruction and prefer to correct students' mistakes during practice.

Group Differences in Text Teaching

Table 3
Text Teaching Approaches by Teachers of Different Learning Styles

Question	Learning Styles									
	AD (n=12)		KS (n=10)		VS (n=33)		VS/AD (n=5)		Total (n=60)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Q13	4.17	.94	3.80	1.03	3.73	.92	4.20	.84	4.10	.95
Q14	2.42	1.51	2.40	1.26	4.33	.74	2.00	1.00	2.28	1.09
Q15	3.58	1.16	4.30	.67	3.70	.92	4.00	1.00	3.95	.96
Q16	2.67	.98	3.00	1.41	3.58	.71	3.40	1.14	3.25	1.08
Q17	2.75	1.22	2.50	.70	3.55	.83	2.40	1.14	2.72	.87
Q18	2.58	.90	2.60	.52	4.33	.77	3.20	.45	2.78	.74

The participants' answers to Q13-Q18 shown in Table 3 reveal that AD and VS/AD teachers prefer students listen to the text first and then explain it. KS and VS/AD instructors are more likely to analyze the structure of the text verbally, whereas VS and VS/AD teachers tend to analyze text structure with graphs. VS and AD teachers prefer to let students act out the content of the text and allow them to explain or teach the text to other students. All four groups are unlikely to permit students to read the texts directly.

Group Differences in Listening Instruction

Table 4
Listening Instructional Approaches by Teachers of Different Learning Styles

Question	Learning Styles									
	AD (n=12)		KS (n=10)		VS (n=33)		VS/AD (n=5)		Total (n=60)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Q19	3.25	1.06	2.90	.88	3.55	1.12	3.60	.89	3.38	1.06
Q20	4.08	.67	4.20	.92	3.88	.65	3.80	.84	3.97	.71
Q21	2.00	.85	2.10	.99	2.67	1.05	2.60	.55	2.43	.99

Q19 to Q21 test the teachers' choice of strategies in listening instruction. As shown in Table 4, VS and VS/AD teachers are more likely to let the students read the script after they have listened to the recording twice, and still do not understand, whereas AD and KS teachers prefer to explain the script verbally if the students do not understand. VS and VS/AD instructors tend to use graphs more often to explain the script when the students do not understand the content of listening materials.

Group Differences in Classroom Activities

Table 5
Classroom Activities by Teachers of Different Learning Styles

Question	Learning Styles									
	AD (n=12)		KS (n=10)		VS (n=33)		VS/AD (n=5)		Total (n=60)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Q22	3.25	1.06	4.20	.79	4.15	.76	3.60	.89	3.93	.90
Q23	3.00	1.13	3.00	.67	3.30	.92	2.80	1.30	3.15	.95
Q24	2.58	1.65	2.60	.84	2.97	.92	3.00	1.22	2.83	.98
Q25	2.50	.67	2.40	1.08	2.94	.99	2.80	1.30	2.75	.99
Q26	3.75	.88	3.60	1.08	3.88	.82	3.80	.45	3.80	.84
Q27	2.33	.98	2.60	1.17	2.73	1.04	2.80	.84	2.63	1.02
Q28	3.83	1.03	3.80	.79	3.97	.85	3.80	.84	2.80	.86
Q29	3.92	.99	4.10	.74	4.27	.72	4.00	.72	4.15	.78
Q30	4.00	1.04	4.10	.88	4.36	.78	3.80	1.30	4.20	.89

For classroom activities, KS and VS teachers prefer comprehensive activities, let the students work in teams, and walk around the classroom while students are working on the activities. VS instructors tend to use both team and individual competition activities, whereas VS/AD teachers prefer only individual competitive activities. VS and VS/AD teachers are more likely to use hands-on and scenario-based classroom activities. Teachers with AD and VS styles use class discussion more frequently than the other two groups. None of the four groups arranges seating according to the nature of the activities in the classroom.

Group Differences in Asking Questions

Table 6
Question-asking Strategies by Teachers of Different Learning Styles

Question	Learning Styles									
	AD (n=12)		KS (n=10)		VS (n=33)		VS/AD (n=5)		Total (n=60)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Q31	4.33	.49	4.20	.79	4.36	.65	4.60	.55	4.35	.63
Q32	2.83	1.27	2.40	.97	3.15	1.35	2.80	1.30	2.93	1.27
Q33	3.50	1.00	2.90	1.29	3.52	.62	3.20	1.30	3.38	.90
Q34	3.75	.75	3.20	1.03	3.64	.65	3.00	.71	3.53	.77
Q35	2.71	.83	2.20	1.23	2.73	.91	2.80	1.30	2.54	.99
Q36	2.75	2.05	2.30	1.34	2.97	1.07	2.40	.89	2.77	1.35
Q37	3.75	1.06	3.70	.67	3.76	.97	4.00	.71	3.77	.91
Q38	1.91	.79	1.90	.99	1.76	1.00	2.80	3.49	1.90	1.31

There are also group differences in question-asking strategies in Chinese Mandarin classrooms at the DLIFLC. AD and VS Chinese instructors usually ask open-ended questions and let the students respond individually. VS/AD teachers tend to ask questions orally instead of writing them down. VS instructors prefer writing down the questions and instructions on the white board or smart board.

The commonality among the four groups is that the teachers usually don't restrict students to a time limit when answering the questions. They seldom correct students or give negative feedback when they answer questions. They all wait for students to finish answering and asking questions, and then address mistakes made.

Group Differences in Media Use in Teaching

Table 7
Media Use by Teachers of Different Learning Styles

Question	Learning Styles									
	AD (n=12)		KS (n=10)		VS (n=33)		VS/AD (n=5)		Total (n=60)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Q39	2.25	.97	2.90	.99	3.06	.97	4.40	2.70	2.98	1.27
Q40	3.67	.78	3.30	.82	3.73	.80	3.00	.71	3.58	.81
Q41	2.58	.79	2.90	.57	2.88	.89	2.60	.89	2.80	.82
Q42	3.42	1.08	3.90	.99	3.70	1.05	3.00	.71	3.62	1.03
Q43	4.00	.95	4.00	.94	4.12	.82	3.60	.55	4.03	.84
Q44	3.75	.75	4.00	1.16	3.97	.85	3.60	.89	3.90	.88
Q45	3.33	.49	3.80	.92	3.73	.91	3.20	1.30	3.62	.89

KS and VS teachers are more likely to use real objects, PPT, and body language to assist teaching, whereas VS instructors like to use videos and pictures. Teachers with VS/AD styles tend to use more graphs in teaching. All four groups use audios in classroom instruction.

Group Differences in Classroom Management

Table 8
Classroom Management by Teachers with Different Learning Styles

Question	Learning Styles									
	AD (n=12)		KS (n=10)		VS (n=33)		VS/AD (n=5)		Total (n=60)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Q46	3.58	1.17	3.30	1.25	3.94	.93	3.20	.84	3.70	1.05
Q47	3.17	1.27	3.00	1.41	3.79	.99	3.40	.55	3.50	1.13
Q48	3.75	.97	3.50	1.08	4.00	1.00	3.40	1.14	3.82	1.02
Q49	1.75	.97	1.70	1.06	2.15	1.12	2.60	1.14	2.03	1.09
Q50	3.83	.94	3.70	1.25	3.67	1.34	3.40	1.52	3.68	1.24
Q51	2.42	1.38	2.30	.95	2.24	1.12	2.80	1.64	2.33	1.17
Q52	2.83	.58	2.40	.97	2.46	.79	2.20	.45	2.50	.77
Q53	4.33	.78	4.50	.53	4.42	.71	4.40	.55	4.42	.67
Q54	4.50	.52	5.10	1.45	4.70	.98	5.60	1.95	4.80	1.12
Q55	2.92	.90	3.60	2.12	3.06	1.37	4.20	2.78	3.22	1.59

The results in Table 8 on classroom management show that VS teachers are more likely to ask students to observe class rules strictly, let students play with small toys, and discipline those who break the rules, whereas teachers with AD

and KS learning styles tend to praise students more for good performance in class. Whether this is due to the teachers' different personalities or learning styles remains unclear, but it makes an intriguing topic for future studies. The four groups seldom award gifts or prizes.

DISCUSSION

The study did not find a statistically significant correlation between teachers' learning styles and choice of instructional strategies. Nevertheless, the data show that teachers tend to choose teaching strategies that are in agreement with their own learning styles, which is evident in teaching grammar, texts, listening, and conducting classroom activities.

VS and KS teachers are more likely to use symbols, graphs and formulas when teaching grammar. VS and VS/AD teachers are more likely to analyze text structures with graphs when presenting texts. For teaching listening, VS and VS/AD teachers tend to show the audio text script to explain the content to students after they listen to the audio, whereas AD and KS teachers are more likely to explain the content verbally. For classroom activities, VS and VS/AD teachers are more likely to use scenario-based activities.

Although there is a tendency for teachers to adopt teaching strategies in tandem with their own learning styles, our study also shows that, in certain areas, teachers still incorporate teaching strategies that do not align with their own learning styles, as shown in Table 3. The lack of alignment in this case suggests that teaching strategies may be influenced by factors such as teaching principles and methodologies promoted through teacher training, teaching team requirements or preferences, and proven methods.

In Table 3, for Question 13: "Let students listen first, and then explain the presentations" (presentations are the major texts of each lesson), the mean scores (above 4.0) for teachers of all four learning styles indicate that teachers, regardless of learning styles, ask students to listen to the presentation prior to reading it, even though the presentation is used as intensive learning material, which often contains new background and cultural information, difficult vocabulary, and new grammatical structures. Such practice reflects a common methodology promoted by many teaching teams in an effort to improve students' listening abilities, as it has been more difficult to achieve higher Defense Language Proficiency Test (DLPT) scores in listening than in reading in recent years.

Similarly, the mean scores of 3.6 and above for Question 26: "using scenario-based and role play activities" reflect scenario-based teaching, which has been promoted in faculty training, is widely adopted by teachers regardless of their learning styles. VS, AD and VS/AD teachers are all likely to use hands-on and role-play classroom activities. Surprisingly, KS teachers receive the lowest mean score on this question. This demonstrates again that teaching preferences are not necessarily determined by teachers' learning styles, but may be influenced

by teacher training, teaching methodology trends, students' learning needs and learning outcomes.

PEDAGOGICAL IMPLICATIONS AND CONCLUSION

Although there is no statistically significant correlation between teachers' learning styles and their choice of instructional strategies, the data indicate a tendency that teachers adopt teaching strategies that complement their own learning styles when teaching grammar, presentations, and listening. Teachers must be more aware of their own learning styles and teaching strategy preferences. Teachers' self-awareness of learning styles and preferred teaching techniques enables them to be more conscious in adopting certain teaching strategies that improve classroom teaching and meet the needs of the students. We suggest that teachers take the *Barsch Learning Style Inventory Survey* to identify their learning styles and reflect on their own teaching strategy preferences by keeping teaching journals, reviewing lesson plans, conducting peer observations, recording lessons, and analyzing students' feedback.

In the meantime, training may be provided to help teachers analyze learning styles and reasons behind their choices of teaching strategies and learn what strategy works more effectively in different teaching contexts. Teachers can collaborate to create a "learning/teaching styles" manual to highlight different teacher learning styles, as well as the advantages and disadvantages of teaching methodologies based on such learning styles. Future action research may be conducted to analyze different student learning styles in relation to teachers' learning styles to better understand how a teacher's own learning preferences and styles may benefit teaching and the learning of students.

This study also shows that teachers do not necessarily choose instructional strategies that are congruent with their own learning styles. Teachers are flexible and willing to adopt different approaches and methods to improve students' learning outcomes. This manifests the importance of teacher training and the sharing of effective teaching strategies. Teaching teams, departments, and schools should provide more teacher training and development programs to allow faculty to share new ideas and effective teaching methods. Teacher training can include teaching demonstrations, peer observations, group lesson planning, and co-teaching. Students will then be exposed to a wider range of teaching styles and learn the material more effectively.

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APPENDIX**Chinese Classroom Teaching Strategy Preferences Survey Questionnaire**
(adapted from Wu and Duan 2016)**Personal Information**Gender: Male FemaleAge: 25-34 35-44 45-54 55 or older

Years of teaching experience at the DLIFLC:

 1-3 3-5 5-10 more than 10

Total years of teaching experience:

 1-3 3-5 5-10 more than 10

The following (1-55) are statements about teaching strategy preferences in Mandarin Chinese classrooms. Please address each by entering the appropriate number. Thank you!

(1 = never; 2 = usually don't; 3 = sometimes; 4 = usually do; 5 = always)

1. I use symbols and graphs to explain sentence structures (i.e., S. V. O). ()
2. I use formulas to explain sentence structures (i.e., S + V +O). ()
3. I use academic terms to explain sentences structures (i.e. nouns, verbs, adjective, resultative complement, directional complement, etc.) ()
4. I give example sentences first, and then introduce the sentence structures inductively. ()
5. I introduce sentence structure first, and then explain it deductively. ()
6. When practicing, I would let the students create new sentences with the new grammar point orally. ()
7. During practice, I let the students create new sentences with the new grammar point in written form. ()
8. During practice, I let the students create new sentences with the new grammar point with character cards. ()
9. I summarize and categorize grammar points that students have learned to help them understand. ()
10. I compare and contrast grammar points the students have learned to help them understand. ()
11. I review repeatedly the grammar points the students have learned to help them understand. ()
12. I use the students as examples in my teaching (i.e., students' names or events in their lives). ()
13. When teaching the text, I let the students listen first and then read. ()
14. When teaching the text, I let the students read the text directly. ()

15. When teaching the text, I orally analyze the structure of the text with the students. (i.e., thesis statement, supporting details, etc.). ()
16. When teaching the text, I use graphs or drawings to analyze the structure of the text with the students (i.e., thesis statement, supporting details, etc.) ()
17. When teaching the text, I let the students act out the content. ()
18. When teaching the text, I let the students explain and teach the text to others. ()
19. In listening class, I let the students listen to the passage two or three times, and then show them the script if they don't understand it. ()
20. In listening class, I let the students listen to the passage two or three times, and then explain orally the content if they don't understand it. ()
21. In listening class, I let the students listen to the passage two or three times, and then analyze the content with graphs if they don't understand it. ()
22. I employ cooperative (interactive) activities in class. ()
23. I employ small group competition activities in class. ()
24. I encourage individual competition activities in class. ()
25. I employ hands-on activities in class. ()
26. I encourage scenario-based activities in class (i.e., booking air tickets, ordering food, etc.) ()
27. I arrange the seating according to the nature of activities (i.e., form a circle or two lines, etc.) ()
28. I employ classroom discussions. ()
29. During class discussions, I encourage students to cooperate to complete tasks. ()
30. During class discussions, I walk around. ()
31. When asking questions in class, I orally state the questions and the requisites for answering correctly or appropriately. ()
32. When asking questions, I write the questions and requirements for answering correctly or appropriately on the white board or smart board. ()
33. When asking questions, I ask open-end questions and let the students express opinions freely. ()
34. I let the students answer questions individually. ()
35. I set time limits for answering questions. ()
36. When the students answer questions, I do not correct their mistakes. ()
37. After the students have answered questions, I correct mistakes. ()
38. After the students answer questions, I provide negative feedback. (i.e., disagreement, criticism). ()
39. I use sketches in classroom teaching. ()
40. I use pictures in classroom teaching. ()
41. I use real objects in classroom teaching. ()
42. I use Powerpoint in classroom teaching. ()
43. I use videos in classroom teaching. ()
44. I use audio files in classroom teaching. ()

45. I use body language (i.e., acting) in classroom teaching. ()
46. I expect students to follow the rules. ()
47. I let students manipulate small items to reduce stress (i.e., erasers, pencils, rubber ducks, etc.) ()
48. I discipline students who break the rules (i.e. sleeping, talking, using cellphones, etc.). ()
49. I give awards to students who perform well (i.e., stickers, small gifts, etc.). ()
50. I praise students who perform well. ()
51. I punish students who perform poorly (i.e., criticizing, deducting grade points, keeping records, etc.). ()
52. Lecturing is primary and student discussion is secondary. ()
53. I foster a happy and relaxed learning environment. ()
54. I observe students' facial expressions to ascertain confusion, interest, and comprehension difficulties. ()
55. When students indicate interested in a new topic, I leave the original topic and discussit. ()

Thank you for your time and support!

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“The Class Changed the Way I Read”: The Effects of Explicit Instruction of Academic Formulas on ESL Writers

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This classroom-based study investigates whether students who receive explicit instruction make more gains over time and more improvement to produce academic formulas in controlled (c-test) and uncontrolled (essay) situations, respectively, than those who do not receive such intervention. Whereas both groups improved over time, the treatment group made more gains in producing academic formulas on a c-test. No significant differences were found between the groups in performance on the essays. However, an examination of the formula types produced on both measures revealed that the treatment group produced a greater variety of target phrases. The qualitative data, collected through interviews with selected learners from the treatment group, indicated that students’ perceptions of the need to use academic formulas in writing as well as the interaction of students’ motivation and their awareness of the frequency and functions of the phrases may influence how they learn and write target formulas.

Keywords: *Academic formulas, academic formulaic sequences, explicit instruction, ESL academic writing, L2 academic writing*

BACKGROUND

As evidenced by the analyses of academic corpora, recurrent sequences of words, variously referred to as lexical bundles, academic clusters, formulaic sequences (FSs), formulas, and chunks (*inter alia*), represent important elements of academic discourse (Biber & Barbieri, 2007; Biber, Conrad, & Cortes, 2004; Biber, Johansson, Leech, Conrad, & Finegan, 1999; Ellis, Simpson-Vlach & Maynard, 2008; Hyland, 2008; Simpson-Vlach & Ellis, 2010). These expressions occur frequently in academic writing. Defining lexical bundles as combinations

of three or more words that recur at least 10 times per million words and across five or more different texts, Biber et al. (1999) report that three-word bundles occur over 60,000 times and four-word bundles over 5,000 times per million words in the academic written component of the Longman Spoken and Written English corpus. In addition, multiword combinations serve several purposes in academic prose, including stance expressions (e.g., *it appears that, we assume that, be explained by*, etc.), discourse organizers (e.g., *in the present study, the next section, as shown in*, etc.), and referential expressions (e.g., *in respect to, the concept of, with respect to*, etc.), with subcategories in more specific roles (Biber, Conrad, & Cortes, 2003, 2004; Simpson-Vlach & Ellis, 2010). Moreover, the use of formulaic language is considered a feature of fluent writing, a sign of (disciplinary) communicative competence (Durrant & Mathews-Aydinli, 2011; Hyland, 2012; Lewis, 2000), and a mark of mature writing (Haswell, 1991). To ESL students, academic FSs are important for at least three reasons:

(a) the [FSs] are often repeated and become a part of structural material used by advanced writers, making the students' task easier because they work with ready-made sets of words rather than having to create each sentence word by word; (b) as a result of their frequent use, such [sequences] become defining markers of fluent writing and are important for the development of writing that fits the expectations of readers in academia; (c) these [sequences] often lie at the boundary between grammar and vocabulary; they are the lexicogrammatical underpinnings of a language that are so often revealed in corpus studies but much harder to see through analysis of individual texts or from a linguistic point of view that does not study language-in-use (Coxhead & Byrd, 2007, pp. 134-135).

It follows that learning to write well in an academic setting requires the knowledge of how to use academic FSs. However, a body of research, guided by the objectives of identifying the norms recognized by expert writers and examining how ESL writing aligns with and departs from these norms, reveals that ESL writers' use of FSs is problematic in many ways. First, they fail to employ FSs logically. Moreover, when ESL writers use the FSs, their writing may display problems such as manipulation of a limited number of FSs (Ädel & Erman, 2012; Chen & Baker, 2010; Scott & Tribble, 2006) that are often direct translations of the FSs in their native language (Altenberg & Granger, 2001; Granger, 1998; Paquot, 2008), a failure to employ sequences present in the texts of expert writers in academia (Hyland, 2008; Scott & Tribble, 2006), and a creation of non-target constructions (Neff van Aertselaer, 2008). In addition, their language production often shows lack of register awareness (Gilquin, Granger, & Paquot, 2007; Staples, Egbert, Biber, & McClair, 2013).

Despite an extended experience with academic writing in the target language, the issues with FSs persist in ESL learners' texts (Ädel & Erman, 2012; Chen & Baker, 2010; Li & Schmitt, 2008; Scott & Tribble, 2006), which suggests that mastering the use of FSs expected in academic prose poses a great challenge

for ESL writers. Further, Boers and Lindstromberg (2009) explain that FSs in context may be either transparent and unnoticed or opaque and ignored by learners. To help students improve, research has suggested that ESL writers be provided with overt, formal, or explicit instruction of academic FSs (Biber & Barbieri, 2007; Ellis et al., 2008; Simpson-Vlach & Ellis, 2010). Explicit language instruction generally involves an explanation of a language item and practice activities to assist in learning the item (e.g., Ellis, 1994; Ellis & Shintani, 2014). In vocabulary acquisition, it has been argued that explicit instruction is an optimal approach for (initial) form-meaning mapping in classroom settings (Hulstijn, 2003; Schmitt, 2008). In the area of formulaic language acquisition, explicit instruction has been reported as beneficial for learning FS (Webb & Kagimoto, 2011) and effective in helping ESL students improve their abilities to use FSs in writing (Colovic-Markovic, 2017). Moreover, it was found better at providing students opportunities to learn FSs through exposure (Magnusson & Graham, 2011) or through awareness raising, attention directing, or dictionary and online corpora searches (Boers & Lindstromberg, 2012). Whereas direct teaching is important for learning academic FSs (Li & Schmitt, 2008), few studies explore its effectiveness.

In L1 context, Cortes (2006) taught a selected set of lexical bundles during five 20-minute lessons over a period of 10 weeks to university students in a writing-intensive history class. She found no major improvement in the frequency and variety of lexical bundle use in student writing after treatment, but the survey results indicated an increase in awareness about the importance of bundle use in academic writing. Cortes inferred that the students may need increased instruction time on and more exposure to the target FSs.

Within the context of L2 academic writing, Jones and Haywood's (2004) exploratory study investigated the effects of direct instruction of academic FSs (e.g., *the use of*, *in terms of*, *the fact that*) on learners' noticing and production abilities in controlled (c-test) and uncontrolled (essay) situations during a 10-week English for Academic Purposes (EAP) program. Target phrases were drawn from Biber et al.'s (1999) bundles list while some (three-word bundles) were created by reducing longer bundles. The study reported that, over the course of the term, students made great improvements in noticing, slight improvements in controlled production, and no noticeable improvements in an uncontrolled situation. When the performance on the measure of production of FSs in the controlled situation was examined for the students not receiving treatment, it was found that none improved. The researchers concluded that some learning of the FSs occurred due to treatment. However, as the researchers themselves noted, the quantitative part of the study suffered from several methodological weaknesses. As the study used different pretests and posttests with different items, results were not comparable. Additionally, the sample size was small, making it difficult to generalize findings. The researchers also attempted to gather information on the use of specific vocabulary learning strategies through a survey with selected participants from the treatment group, two high-achieving and one low-achieving. Whereas the survey results indicated that the informants employed strategies in learning FSs,

which strategies distinguished the more from the less successful FS learners still needed exploration.

Peters and Pauwels (2015) investigated whether direct instruction had an effect on the number of academic FSs second-year EFL business students could recognize in a text and use in controlled (c-test) and uncontrolled (research summary and collaborative research paper) situations, and what type of classroom activity would be most beneficial. Unlike Jones and Haywood who largely drew from Biber et al. (1999) list of bundles empirically found frequently in academic discourse, Peter and Pauwels selected items (e.g., *the main objective of, studies demonstrate, findings are consistent with*) from the *Academic Phrasebank* of the University of Manchester, a collection of phrases taken from various academic sources and selected based on their communicative functions. The study found significant learning gains over time in students' abilities to recognize and produce the target FSs in a c-test and summary. In addition, the research reported that the students receiving explicit instruction were able to produce a higher frequency and greater variety of target items in a collaborative research paper than those who did not receive the treatment. Relative to the type of classroom activities, it was indicated that those incorporating controlled production were beneficial to the learners.

Meanwhile, AlHassan and Wood's (2015) study explored the effectiveness of direct teaching of academic FSs in upgrading the skill in paragraph writing of 12 learners, most of whom attended EAP classes. It found positive effects of treatment on student FSs use in writing but considered frequent academic (e.g., *in addition to, on the basis of, on the other hand*) in conjunction with thematically-related FSs (e.g., *the rise and fall, significant decrease, the fluctuation in the price*).

Although studies exist that indicate FSs may be learned from explicit instruction, there is still a need for more research, both empirical and classroom-based, that explores the effects of explicit teaching of the FSs found to be frequent in academic writing, hereafter referred to as *academic formulas*. Such research is important because it allows ESL writing teachers to determine whether it is worthwhile to devote in-class time to explicitly teaching academic formulas. To gain further insight into the effects of explicit instruction on the ESL writers' abilities to produce academic formulas, an ecologically-valid, classroom-based study was designed to answer the following questions:

1. Do the students who receive explicit instruction make more gains in their abilities to produce, in a controlled situation (i.e., c-test), academic formulas than the students who do not?
2. Do the students who receive explicit instruction improve their abilities to produce, in an uncontrolled situation (i.e., an essay), academic formulas more than the students who do not?

In addition, the study attempted to glean insights into the strategies ESL writers receiving explicit instruction use in learning and producing academic formulas, specifically, the difference in strategies favored by more successful and less successful learners. To this end, individual interviews were conducted at the

end of the treatment with a subset of students from the treatment group. The wording and sequence of the interview questions below remained the same for each informant; however, probes were used to elicit additional information as the need arose.

- a. How familiar were you with [*insert the phrase*] at the beginning of the term?
- b. How did you go about filling in the missing parts of words in the test at the start/end of the term?
- c. How did you go about using the target phrases in your writing/learning phrases for the purposes of writing?
- d. Your writing teacher used many different activities to help you learn the target phrases. In your opinion, which of these activities helped you learn the phrases best?
- e. Which of the activities were not helpful to you?

METHODOLOGY

Participants

The study was conducted at an Intensive English Program (IEP) offering courses that primarily support the development of language skills for academic purposes, but also for professional communication. Sixty-three students gave permission to the researcher to access their written assignments. However, only the assignments of the students who completed the c-tests (N=52) and those who submitted the multi-draft, end-of-the-semester essay (N=51) were used in the analysis. Participants were enrolled in five intact high-intermediate writing classes at the IEP and assigned to the treatment and contrast groups based on class enrollment. They had taken a standardized English proficiency placement exam for the IEP. Participants spoke 11 languages (Arabic, Bambara, French, Japanese, Korean, Mandarin, Portuguese, Russian, Spanish, Thai, and Turkish); 47% were male and 53% female. The treatment group consisted of 31 students, ranging in age from 18 to 45; the contrast group included 22 students, ranging in age from 18 to 33.

Target Academic Formulas

The academic formulas used in the study were taken from Academic Formulas List (AFL) created by Simpson-Vlach & Ellis (2010). The AFL formulas, extracted through an empirical examination of a corpus of written and spoken academic discourse across various disciplines, are similar to lexical bundles in that they are based on frequency of occurrence, but different in that they are further assessed empirically for psychological and pedagogical validity. The formulas are classified by pragmatic-linguistic functions (e.g., quantity specification, identification and focus, contrast and comparison) within three subgroups: Core, Written and Spoken. Core items are shared by academic written and academic spoken language. Written and Spoken formulas are specific to their

respective academic registers. Target formulas were selected based on two main criteria: a) usefulness to the students in a class focusing on the academic argumentative essays; and b) presence in the course environment. Based on the aforementioned requirements, 81 formulas from the Core AFL (see Appendix A) and 46 formulas from the Written AFL (see Appendix B) that were identified in the reading materials students completed in preparation for writing were used in explicit instruction. Text-Lex Compare version 2. 2 (Cobb, 2010) and Microsoft Windows version 2007 with its feature “Find” were the two software programs used in the process of identification of target formulas in course readings.

Materials and Procedures

The following were the same for the treatment and contrast groups: syllabus, reading materials (see Appendix C), textbook activities, and writing assignments. Three multi-draft essays constitute major course assignments. Both groups were taught by the same instructor, who was different from the researcher.

Table 1 presents an overview of the research design. The pretest and posttest for production of academic formulas in a controlled situation were administered in Week 1 and Week 8, respectively. To allow a previously established two-week time frame for writing multi-draft essays, the final drafts of the third essay were collected three days after the end of the term. Explicit instruction of the target academic formulas, extending from Week 2 to Week 8, was integrated into the lesson plans for high-intermediate writing classes, as ecological validity of the study was given high priority. Explicit instruction was provided in increments of 5-20 minutes per class in at least two out of the four days of instruction per week during the term. The writing instructor devised the calendar for the course. The phrases were taught in the order in which they appeared in the readings for the course. Each academic phrase was presented to the treatment group a minimum of three times — once during course readings and the other two in class. In the context of an authentic writing classroom as well as IEP and ESL environments, it was not feasible to keep constant the frequency of occurrence of the target formulas in the input.

Table 1
Overview of the Research Design

<i>Week</i>	<i>Treatment group</i>	<i>Contrast group</i>
1	Data collection (c-test pretest)	
2-8	Explicit teaching	Non-explicit teaching
8	Data collection (c-test posttest)	
9	Data collection (multi-draft essay)	

The approach to teaching academic formulas consisted two of the three psychological conditions advocated by Nation (2013) that may result in lexical learning: noticing and retrieval. The in-class activities were created according to the principles of explicit vocabulary learning (Schmitt, 2008) and mainly based

on activities suggested by research (Coxhead & Byrd, 2007; Folse, 2006; Nation, 2005, 2013; Nation & Newton, 1997; Peters & Pawles, 2015). To promote noticing, target formulas were made salient in the reading materials through framing. The treatment group was explicitly told that the marked phrases were important and frequent in academic writing and that they performed specific functions in the texts. The students then read, usually outside of class, the assigned texts. To promote noticing further, consciousness raising activity was used that involved rereading text segments, analyzing functions of the target formulas, and categorizing them by their pragmatic functions. To promote retrieval, the following were used: *Fill in the Gap exercises (matching and word completion)*, *Use in Context*, *Dictogloss*, *Identify and Produce*, *Review and Amend*¹ (see Appendix D for examples). In addition, students were asked to use target phrases in writing. They were directed to view the phrases as a whole and not to combine individual elements making up the phrase, to prevent construction of erroneous combinations (see Durrant, & Mathews-Aydinli, 2011). They were encouraged to refer to activity handouts listing target formulas and other materials during the writing process. All of the activity types, with the exception of *Review and Amend* and *Categorizing*, were piloted with a group similar to the study population.

The contrast group, not receiving explicit instruction on academic formulas, was exposed to the target items through reading, in-class discussions, and textbook activities. It is possible, however, that the teacher addressed specific vocabulary including the target academic formulas when asked vocabulary questions in class. While the treatment group received direct instruction, the contrast group engaged in extended discussions on the content of the reading materials, analysis of the arguments set forth in the papers, and writing-oriented tasks, such as journaling, as the teacher devised.

As previously mentioned, participants were allowed about two weeks to work on their essays, including the third essay used in the present study. They had access to all course material during writing. They wrote the first draft of the third essay within time constraints (40 minutes) in class in Week 7. They received written commentary from the teacher who was instructed to give feedback in a manner she had used in previous terms. Although the primary reason for the directive was to control external variables, it should be noted that Li and Schmitt's (2009) study suggested that explicit corrective feedback was only mildly effective for academic FSs. Participants were directed to make revisions prior to submission of the final draft.

Instruments for Quantitative Data Collection and Evaluation

To answer the first research question about whether the students who receive explicit instruction make more gains in their abilities to use academic formulas in a controlled situation than those who do not receive the intervention, a c-test was used. Due to test administration time constraints, a subset of the target academic formulas was randomly selected for inclusion in the c-test. The c-test was piloted first with a native speaker and a non-native speaker of high-

proficiency and then with a group similar to the study population. Based on the feedback received, the test length was reduced by 30 items, randomly selected, and the language of the remaining passages was simplified. The final version of the c-test consisted of 51 items (see Appendix E). To assess the production of academic formulas in a controlled situation, a rating scale (see Appendix F) was designed. It is based on the evaluation tool created by Jones and Haywood (2004).

To answer the second research question investigating whether the students who receive explicit instruction improve their abilities to produce academic formulas in writing more than the students who do not receive explicit instruction, a source-based multi-draft argumentative essay was used, which students wrote as a third and final major course assignment. The assignment required students to take a stand on the issue of international adoption and argue whether a country should allow international adoption or restrict adoptions to domestic adoptions only. It seemed that a source-based argumentative essay, a type of essay in which a student, having made a claim, resorts to strategies (definition, example, classification, comparison and contrast, etc.) to make reference-based arguments in support of a claim, would allow study participants multiple opportunities to use various target academic formulas. To assess the production of academic formulas in writing, a separate, more conservative, scoring scale was created (see Appendix F).

Scoring and Analysis

The data for the study included the scores students received on the production of academic formulas on a c-test and a multi-draft argumentative essay. Upon collection, both c-tests and essays were coded and mixed to keep the data blind during the evaluation process.

The c-tests were assessed by the researcher and a trained rater who both used the scoring scale for measuring the production of academic formulas in a c-test. The final score given to the accuracy of use of formulaic sequence on the c-test is the sum of scores given to each formulaic sequence. The raters reached the interrater reliability of 1.00.

The researcher conducted a lexical analysis of the essays to extract the target academic formulas. The average number of words per paper produced by the students in the contrast group was 398 and in the treatment group was 385. Text-Lex Compare version 2. 2 (Cobb, 2010) and Microsoft Windows version 2007 were used in identifying target formulas in essays. The researcher examined the context and the pragmatic function of the identified structures to confirm that the phrases were realizations of academic formulas and not random strings of words. The process of target formulas identification in essays was repeated three times over a period of four days to ensure reliability of scoring of data. The researcher took 15- to 30-minute breaks between searches after every thirty target formulas.

The researcher evaluated the formulas using the scoring rubric for production of formulas in writing. The final score given to the production of

formulas in an essay was a sum of the scores given to each formula under investigation. In order to avoid inflation in scores the following measures were used: Target formulas found inside citations or within text segments freely borrowed from sources were excluded from the analysis. One score was assigned to multiple occurrences of the same formula by calculating an average of scores assigned to each occurrence. Overlapping formulas, such as “*the same time*” and “*at the same time*”, were counted and evaluated not as two but as one formula.

RESULTS

Differences between Contrast and Treatment Groups

The means and standard deviations for the scores participants received on the production of academic formulas on a c-test at the start and end of the term and in a multi-draft essay at the end of the term (i.e., Essay 3), are specified in Table 2.

The first research question asked whether the students who received explicit instruction improved their abilities to use the target academic formulas in a controlled situation (i.e., c-test), from pretest to posttest more than those who did not. To compare the gains over time between the two groups, a repeated-measures ANOVA in SPSS version 24 was employed with time (pretest vs. posttest) as within and group (treatment vs. contrast) as between subjects variables. The assumptions of normal distribution of data and the homogeneity of variances were not met.

Table 2
Minimum, Maximum, Mean Scores and Standard Deviations for all Measures by Group

Measure	N	Min	Max	M	SD	Contrast		Treatment		
						N	Min.	Max.	M	SD
c-test AF										
Pretest	22	1.00	49.00	32.86	14.28	30	4.00	92.00	31.80	19.13
Posttest	22	12.00	95.00	45.86	18.65	30	33.00	148.00	81.76	32.91
Essay AF										
Essay 3	20	3.00	21.00	11.18	5.76	31	.00	24.00	8.77	6.66

Note: AF=academic formulas

Larson-Hall (2016) explains that the problem with violating these assumptions is that statistical differences that exist between groups of participants may not be found (p.100). Because there were only two choices (one for time and another for group), data about sphericity was not produced. The analysis for this study finds statistically significant results as described below.

There was a statistical interaction between group and time, meaning that the groups did not perform the same way at the two time periods ($F(50,1)=27.032$, $p=.000$, partial eta-squared=.351). The interaction between group and time accounted for 35% of the variance in the model. There was also statistical effect for time ($F(50,1)=95.498$, $p=000$, partial eta-squared=.656). In this model, time makes a bigger difference to the variance, accounting for 66% of the variance. As each group was tested only twice, from the mean scores (see Table 2) it is concluded that the participants did better on the posttest than the pretest. There was a statistical effect for group (treatment vs. contrast), ($F(50,1)=10.252$, $p=.002$, partial eta-squared=.17). There are only two groups, so it is concluded from the mean scores (see Table 2) that the treatment group performed better than the contrast group.

The results suggest that both groups made gains in their abilities to produce academic formulas from pretest to posttest, but the treatment group had greater gains than the contrast group. Such findings suggest that, at least for the intermediate ESL learners, students who receive direct instruction seem to improve their knowledge of the academic formulas more when compared to those who do not.

It was decided post-hoc to examine whether there were differences in the types of academic formulas the groups produced on the c-tests at the end of the term, by examining which academic formulas were produced by the treatment and contrast groups in a target-like manner (i.e., received a rating of 3 as described in Appendix E) and which were never attempted or produced incorrectly and/or partially (i.e., received a rating of 0 as described in Appendix F). The analysis revealed that while all of the 51 target academic formulas considered in the c-test appeared in the responses of the treatment group in a target-like manner, there were four formulas (*there are no*, *for this reason*, *in response to*, and *at this stage*) that seemed problematic for the contrast group: The formulas *there are no* and *for this reason* were attempted but produced infelicitously by the contrast group while *at this stage* and *in response to* were never attempted. Appendix G offers the percentages for the production of the academic formulas in a target-like manner on a c-test at the end of the term by group.

The second research question was whether the students who received direct instruction differ in their abilities to use the target formulas in an essay from those who did not receive the intervention. To compare the learners' performance at the end of the treatment, an independent t-test analysis was performed. The data showed departures from non-normality such that distributions were not symmetrical; however, variances were equal and no outliers were identified. An independent samples t-test found no evidence of a difference between scores on the multi-draft end-of-the-term essay for the contrast group (mean=11.18, SD=5.76, $N=21$) and the treatment (mean=8.77, SD=6.66, $N=31$) group, 95% CI [-1.25, 6.05]. As the 95% CI contains zero, it was concluded that there is no statistical difference between the groups. The effect size for this comparison was Cohen's $d=0.39$, which by Plonsky and Oswald's (2014) guidelines for effect sizes for second language acquisition can be considered a small effect.

Table 3
Types of target academic formulas produced in multi-draft essays by group.

<i>Contrast Only</i>	<i>Treatment Only</i>	<i>Both Contrast and Treatment</i>
doesn't have	a number of	according to the
depends on the	and in the	and so on
in this case	as a result of	as a result
is not a/an	due to the	for this reason
it does not	have the same	his or her
point of view	in terms of	in order to
the most important	is that it	in other words
there are three	is that the	is not the
	it can be	it has been
	that there is	it is difficult
	the fact that	it is not
	the issue of	it may be
	the problem of	that there are
	the process of	the number of
	there is no	there is a/an
	whether or not	this is not

Post-hoc analysis of the academic formulas receiving scores 1-3 (see rating scale in Appendix F) that were produced in multi-draft, end-of-the-term essays was conducted to examine a possible difference between the formula use by the contrast and treatment groups. The analysis revealed that while there were target formulas that both groups produced ($N=16$), there were some ($N=8$) produced by the contrast and others ($N=16$) by the treatment group only. More importantly, the results indicate that in essays, the treatment group, in comparison to the contrast group, was able to produce a greater variety of the target formulas (see Table 3).

To ensure that the groups started out the same, the pretest data consisting of students' scores on a timed in-class impromptu essay were submitted to independent t-tests analysis. Because the independent t-test on the pretest measure was non-significant (i.e., $t=.212$, $SD=60$, $p=.833$), and because the participants were randomly assigned to the classes which later became contrast and treatment groups, it was fair to assume that the groups were equal prior to treatment.

Follow-up Interviews

To provide a more in-depth exploration of the approaches students took at learning and producing the target formulas and tap into a possible difference in strategies favored by more successful and less successful learners of academic formulas, additional data were collected via follow-up interviews with five informants from the treatment groups. Based on their c-test scores, three

informants were identified as low achieving and two high achieving (for informants' educational and language profiles, see Colovic-Markovic, 2017). As noted previously, a set of the same questions was asked to the informants, but probes were used to elicit additional information when needed. To ensure confidentiality, they were identified by pseudonyms rather than their real names.

Al, considered a high achieving student, had studied, prior to this class, formulas that did not cross constituent boundaries such as *refer to* and *according to*. When working on the c-test at the start of the term, he was making educated guesses; however, when doing the same test at the end of the term, he was able to recall the target formulas from memory. In class he participated actively in vocabulary-based activities and out of class he engaged in vocabulary-focused reading. The latter involved re-reading assigned and reading unassigned materials, such as magazine and newspaper articles, while focusing on the vocabulary of the texts, as well as highlighting the formulas in the texts and examining their forms, uses, and functions in context. He started paying attention to the elements of an academic formula. As he recognized the difference in meaning between “*genetic engineering*” and “*the role of genetic engineering*” or “*the process of genetic engineering*”, he realized that with the knowledge of academic formulas, he could not only understand a text better but also present ideas in his writing with clarity and precision. He claimed that the writing class changed “the way [he] read[s].” What triggered such change was his realization that the target formulas, as Al puts it, “were everywhere”, specifically the constructions “*the NOUN of.*” Al was positive about all of the activities used in teaching of academic formulas. When discussing the use of academic formulas in the final multi-draft essay, he explained that his motivation to revise vocabulary decreased. He felt the work for the course was completed at the time the in-class instruction ended, which was before the essay submission deadline.

The other participant considered high-achieving was Jumi. She had learned some phrases in previous writing classes, but many of the target formulas taught in the present class were new. Similar to Al, she was guessing on the c-test at the start of the term but relied on her knowledge of the target phrases on the c-test at the end of the term. Having studied academic formulas primarily through memorization, she tried to incorporate them in written assignments. There were some formulas whose meaning and usage remained unclear. When discussing the use of academic formulas in her writing, she explained to have made a conscious attempt to sound academic by using the target formulas in the first two multi-draft essays but not necessarily in the third. As the term was winding down, so was her motivation in constructing an academic essay. Despite a positive attitude towards in-class vocabulary activities (specifically, *Fill in the Gap (matching)*), she felt that the in-class instruction on academic formulas needed be aligned more closely with her own writing needs.

Jihan was one of the three low achieving participants. Similar to his high achieving peers, he was making guesses when working on the c-test at the beginning of the term. Unlike them he continued at the time of the posttest to apply the guessing strategy having learned only some academic formulas.

Whereas he recognized the importance of learning academic vocabulary for ESL students, it was not important to him. A job in a foreign firm he planned to seek upon return to his home country, he believed, would not require academic vocabulary. When writing essays for the class, he was often translating from his native language to English. Other times, when he used the target formulas in writing, he recalled from memory phrases learned prior to the class or made an attempt to construct a grammatical sentence. Reflecting on the final essay, Jihan attributed his lack of motivation to several factors: little interest in the topic, family obligations, and the paper submission deadline. He felt that reading assigned texts in preparation for writing was enough to learn vocabulary. Despite a negative attitude towards vocabulary-focused activities, Jihan found *Fill in the gap (matching)* useful.

Similar to other informants, another low achieving student, Jack, applied the guessing strategy when completing the c-test at the start of the term. Despite a low score on the posttest, Jack reported to have become familiar with most of the target academic formulas through reading assignments for previous classes. He maintained that the test was easy to complete, did not require students to “think a lot about the answers,” and presented a good learning opportunity for all the students who did not study the target formulas. The time he remembered incorporating target academic phrases in his writing was when the teacher assigned the activity entitled *Review and Amend*. Similar to Jihan, Jack found reading assigned texts in preparation for writing sufficient for learning academic formulas. He had a positive attitude towards *Fill in the gap (word completion)* activity.

The third low achieving student was Ju. She reported to have learned, in previous writing classes, formulas such as “*in contrast to*” and “*according to*”, indicating a lack of awareness that the academic formulas taught in the present class often crossed the phrase boundaries. She made guesses while working on the c-test at the start of the term. However, on the same test at the end of the term, she read carefully the context to supply responses. Although she reported to have studied the target formulas inside and outside of class, she was unable to describe her learning strategies. Despite perfect class attendance, she was unable to recall some of the in-class vocabulary-focused activities such as dictogloss. Having remained uncertain about using the target phrases, Ju employed them rarely in her writing, and when she did, she seemed unaware that the phrases in her essay were actually the academic formulas examined in class. This was mainly because the academic formulas were either copied from a self-compiled list of phrases that overlapped in form with the target formulas taught in class or were phrases equivalent to those in her native language. Her focus was on getting the information across through writing rather than on sounding “academic.” Throughout the interview, Ju reiterated that the vocabulary-focused activities that were not interesting were not useful. She estimated she would have learned more academic formulas had these phrases had more content. Similar to the other informants, she viewed favorably *Fill in the gap* activities. She expressed two concerns with the explicit teaching strategies used in class: being given handouts

listing academic formulas rather than a reference list of academic formulas and being encouraged to rather than being held accountable for using the academic formulas in her writing.

DISCUSSION AND CONCLUSION

The overarching goal of the study was to investigate whether or not an explicit teaching approach adopted in an actual writing classroom setting has the potential to improve ESL students' use of academic formulas. The first research question was directed towards the investigation of possible differences between the gains in abilities to produce academic formulas in a controlled situation by the students who received and those who did not receive explicit instruction. To examine production of academic formulas in a controlled situation, a c-test, which taps declarative knowledge and provides an indirect evaluation of the processes involved in language production, was used. The findings suggest that ESL writers can improve their abilities to produce target formulas on a test, meaning that they can improve their knowledge of academic formulas, after reading and discussing texts at length in class over a period of time. Moreover, the results show that students receiving explicit instruction in a writing class improve their knowledge of academic formulas more than students not provided with the instructional intervention. The findings of the post-hoc examination of the academic formulas supplied on the posttest, employed to explore further differences between the two groups, reveal that, as a result of direct instruction, students were able to produce more target phrases and do so with greater accuracy, which indicates that focusing on academic formulas can promote their lexical accuracy (Boers & Lindsromoberg, 2009; Coxhead & Byrd, 2007). These findings, taken together, suggest that explicit instruction is likely to boost ESL students' knowledge, albeit declarative, of academic formulas, which is in line with findings of previous studies considering academic phrases identified through frequency or other measures (Jones & Haywood, 2004; Peters & Pauwels, 2015).

The second research question sought to determine whether ESL students who received explicit teaching improved their abilities to produce academic formulas in an uncontrolled situation more than those who did not receive the instruction. To investigate free production of academic formulas, a source-based multi-draft argumentative essay was used. Students had open access to outside materials, including those used in teaching target formulas. The results of a t-test showed no statistically significant differences between the groups, indicating that the performance of the students in the treatment group did not significantly change due to instructional intervention. However, close examination of the types of academic formulas in student essays revealed that learners receiving explicit instruction produced a greater variety of the target items, which is in accord with the outcomes of recent research on academic FSs (Peters & Pauwels, 2015). These findings provide tentative support to Jones and Haywood (2004), as well as to Cortes (2006) for L1 contexts, who suggest that students may need extended instruction on and more practice with the use of academic formulas. In fact, the

outcomes indicate that explicit teaching may have the potential to help learners improve their production of academic formulas in writing if the target phrases were made salient in the materials students read to springboard their writing, such as isolating and explicitly presenting the phrases to help students realize their occurrences and functions in written discourse, directing students to manipulate them in various productive activities, and encouraging students to use them in their own essays.

The interview data provided insights into possible reasons why explicit teaching did not make a greater impact on the production of academic phrases in essays. First, whereas all informants favored practice with manipulation and production of target phrases in controlled situations (*Fill in the gap* activities), many concurred, albeit to varying degrees, that more activities with a direct application to their compositions would have been useful. These findings suggest that students possibly need help linking academic formulas with the purpose(s) of their prose (to specify quantity, to contrast, to focus and identify, etc.). Second, the production of academic formulas was often a result of a student's conscious attempt to sound academic. However, such effort was an unstable factor heavily dependent on the context in which students wrote. Indeed, each of the five informants either explicitly stated or implied that his/her motivation to produce an academic essay had decreased primarily because the essay submission deadline was after the last day of instruction and their grades for the class, for the most part, seemed determined. Additionally, it was stated that implementing accountability measures for the use of academic formulas in writing would have been useful. These findings suggest that learners need to raise the awareness that their writing will fit the expectations of an academic audience when they use advanced vocabulary, including academic formulas (Coxhead & Byrd, 2007).

In addition, as was the goal for inclusion of qualitative measure, the interview data revealed differences between high achieving and low achieving learners receiving explicit instruction. First, the former appeared to have raised their awareness that the words forming academic formulas often extend across phrase boundaries. Moreover, they had applied direct strategies in learning academic formulas, such as engaging in vocabulary-based activities, reviewing vocabulary handouts received in class, memorizing the formulas, and focusing on the vocabulary while (re)reading assigned and self-selected texts. On the other hand, the low achieving students remained unaware of the form many academic formulas take. Having failed to engage in a focused study of the target formulas inside or outside the class, they did not fully grasp functions and usage of some academic formulas. Additionally, when reading, they focused on the message rather than the vocabulary of the text.

Regarding strategies, the high achieving students reported to have tried, to recall the academic formulas from memory while writing. On the other hand, when low achieving students made attempts at production of formulas in writing, they referred to various lists of formulas, either self-compiled or handouts given out in class. This finding suggests that the writing instructors would do well if they were to provide (struggling) students with lists of academic formulas to

reference during writing. At other times, they seemed unaware that phrases they used in writing were those previously taught in class, a finding that echoes Boers and Lindstromberg's (2009) assertions that despite their frequency in the input, AFs pass unnoticed by many L2 learners. This was generally the case when the learners reported making an attempt to create a grammatical construction in English or relying on equivalent phrases from their native language, which has been well documented previously (e.g., Altenberg & Granger, 2001; Granger, 1998; Paquot, 2008).

Overall, the findings of this study seem to support the arguments set forth by previous researchers advocating explicit instruction in academic formulas (e.g., Coxhead & Byrd, 2007; Simpson-Vlach & Ellis, 2010). The impact of such instruction was particularly illustrated in the behavior of one of the high achieving students who reported changing his approach to reading due to the writing class: He no longer read focusing on the message of a text only, but also the language of the text, which is viewed as one of the goals for vocabulary learning (Nation, 2013).

There are a number of limitations in this study. As has already been mentioned, due to the class-time constraints, not all of the academic formulas that were taught were tested. Since the instructional intervention extended over a full term, it was not possible to collect data on production of academic formulas in a multi-draft essay prior to treatment, to measure possible change over time. In addition, the multi-draft essay was collected at a time in the term when, according to informants' accounts, students' motivation to "sound academic" decreased.

NOTE

1. The activity entitled *Review and Amend* was used once prior to submission of the second major assignment for the course not considered in the present study.

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APPENDIX A

Core Academic Formulas Used in Explicit Instruction Arranged by Pragmatic Function

Group A. Referential Expression

(1) Specification of attributes

(a) *Intangible framing attributes*

in response to	the fact that	the presence of
in terms of	the fact that the	the problem of
is based on the	the form of	the process of
point of view	the issue of	the role of
the ability to	the meaning of	the use of

(b) *Tangible framing attributes*

as part of a	the amount of	the part of
part of a	the area of	the rate of
part(s) of the	the level of	value of the

(c) *Quantity specification*

a number of	a set of	the number of
a series of	of these two	there are three

(2) Identification and focus

as an example	is that there	that in a
in this case	it can be	that there is/are
is for the	it does not	there is a/an
is not a/an	it is not	there is no
is not the	is to be	this is not
is that it	referred to as	this type of
is that the	such as the	this would be

(3) Contrast and comparison

as opposed to	have the same
of the same	the same as

(4) Vagueness markers

and so on

Group B. Stance Expressions

(1) Hedges.

are likely to	it may be
likely to be	may not be
more likely to	

2) Epistemic stance

according to the out that the

(3) Expression of ability and possibility

can be used can be used to to use the

Group C. Discourse organizing functions

(1) Topic introduction and focus.

what are the

(2) Topic elaboration: cause and effect.

a result of	due to the	the result of
as a result	in order to	whether or not
as a result of	so that the	
because it is	the effects of	

(3) Discourse makers.

and in the
as well as
at the same time
in other words

APPENDIX C

A List of Reading Materials Used in the Course in Order of Introduction

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APPENDIX D

Examples of Activities Used in Instruction of Academic Formulas

Categorizing

Directions: Your reading materials on the topic of wolf protection contain phrases in frames. These phrases are used very frequently in academic writing only or academic speech and writing. If you are planning on continuing your education in an English-speaking university or continuing your education or if your goal is to sound academic in your writing in this writing class, it is very important that you learn these phrases and that you learn to use them in your writing. Examine the phrases in context and sort them out by category. There are three general categories (there may be some overlap between the three categories).

1. Stance expressions- express attitudes or assessments of certainty that frame some proposition.
2. Discourse organizers - show relationship between prior and coming information.
3. Referential expressions- make direct reference to physical or abstract entities or the context itself. Their purpose is to identify the entity or to single out some particular attribute/characteristic of the entity that is especially important.

Functions	Academic Phrases
Stance Expression (expresses knowledge claim of others)	
Discourse Organizing function (connects ideas)	
Referential Expressions: (identifies something, focuses reader's attention)	
Stance Expression (shows obligation, gives directive)	
Referential expression (identifies a characteristic of something)	

Fill in the Gap

Fill in the gap (matching)

Directions: Examine the phrases in the box below. Examine the sentences below the phrases. Complete the sentences with the correct phrase. Each phrase is used only once.

there has been	the amount of	as a result	the level of	that in a
----------------	---------------	-------------	--------------	-----------

1. _____ much controversy in the press recently about the pros and cons of stem cell research.
2. Dead cells of almost any kind, no matter the type of injury or disease, can be replaced with new healthy cells thanks to the amazing flexibility of stem cells. _____, billions of dollars are being poured into this new field.
3. What is _____ detectability of GM food cross-contamination? Scientists agree that current technology is unable to detect minute quantities of contamination, so ensuring 0% contamination using existing methodologies is not guaranteed.
4. There are strict limits on _____ pesticides that may be applied to crops during growth and production, as well as the amount that remains in the food after processing.
5. It is hoped _____ humanitarian gesture, more companies and non-profits will follow the lead of the Rockefeller Foundation and offer their products at reduced cost to impoverished nations.

Fill in the gap (word completion)

Directions: The following sentences contain academic phrases with missing word parts. Work on your own OR with a partner to fill in the gaps. When done compare your answers with a partner/another group.

1. There have been international efforts t____ en_____ th_____ adoptions are carried out in a legal manner to the benefit of the children and their families.
2. Many people have reported that being a parent today i_____ mu_____ mo_____ difficult because nowadays, parents have to shield and protect their children from schoolwork.

Use in Context

Activity A.

Directions. Review the responses in the *Fill in the gap* activity. Which academic phrases were difficult for you? Create a “Fill in the gap” activity for your classmate. Use three/four phrases that were most difficult for you.

Activity B.

Which academic phrases were easy for you? List them below.

Which academic phrases were difficult for you? List them below.

From the list of academic phrases that were difficult, chose three or more to use in a short passage (three to five sentences) that discusses the issue of genetic engineering, which is the topic of your second essay for the course.

Activity C.

Review the *Categorizing* activity handout.

Use each of the academic phrases in a sentence of your own. The sentences need to express your perspective/idea/comment on the issues on genetic engineering.

When you finish writing your sentences, sit in groups of three. Pass the sentences to a peer sitting next to you for a review. Pass the sentences to the other peer for another review.

When all sentences are reviewed and corrected, discuss your sentences and corrections, if needed.

Identify and Produce

Identification: There are four academic phrases in the text below. These phrases can be found in your reading on wolf protection. Locate them in the text below. Share your answers with a partner.

According to the DNR, the process of delisting wolves from the endangered species list may take some time. The decision to remove the wolf from the endangered species list came about as a result of a series of wolf attacks on cattle and sheep.

Production: Use some or all of the phrases to introduce the issues related to the topic of wolf reintroduction in your essay.

Review and Amend

Directions: Below are some of the phrases you encountered in the readings on the topic of wolf protection. These phrases are very frequently used in academic writing. They are listed by function they perform in the texts we read.

1. Examine your argumentative essay on wolf protection to see whether or not the phrases from the list are used in your writing. If they are, examine their function. Evaluate whether or not they are used appropriately.
2. Mark each phrase that appears in your text.
3. If these phrases are not present in your text, examine your writing to see whether or not there are places in your text where the phrases could be used to improve your essay. Amend your essay.

Category	Academic Phrase
Referential Expression (identifies a characteristic of an entity)	the ability to the issue of the meaning of the role of the fact that the in terms of

Stance Expression (expresses ability and possibility)	can be used (to)
Stance Expression (introduces the source of knowledge)	according to the
Referential Expression (specifies quantity)	a series of
Referential Expressions (identifies something, focuses readers' attention)	there has been this is not this is a such as the in this case
Cause and Effect	due to the
Referential expression (identifies physical or measurable quality of something)	part of a part of the

Dictogloss

Directions. In this activity, you will listen to a text twice. The first time, just listen to your teacher read the text. The second time, listen to the text and take notes. When done, you will sit in pairs, compare notes and recreate the text you have just listened to.

Ecocultural Approach

According to the ecocultural approach, the individual cannot be separated from his or her environmental context. People constantly exchange messages with the environment, thus transforming it and themselves. In other words, these interactions are reciprocal. The individual is seen not as a passive and static entity, but as a dynamic being who interacts with and changes the environment. For example, parents educate their children and at the same time their children educate them.

(adapted from *Exploring Context: Reading for Success* by Lauren C. Smith, 2005, p. 244)

APPENDIX E

The C-test on Production of Academic Formulas

Student's Name _____ Date: _____

Fill-in Exercise

Directions: Read the extracts below taken from authentic academic texts. Each contains a phrase with a part cut off. Look at the context and fill in the blanks with the missing half of the words. Sometimes only one letter of a word is missing; sometimes several letters of a word are missing; and sometimes a word will be provided. Use your best handwriting to fill in the blanks. You have 30 minutes to complete this task.

Example:

- Mind is a s _____ o _____ operations carried out by the brain.
- Mind is a set _____ of _____ operations carried out by the brain.

1. Meanwhile, the Arctic Circle has become a hotly contested region; acc _____ t _____ th _____ U.S. Geological Survey, it holds 13 percent of the world's remaining oil reserves and 30 percent of undiscovered but technically recoverable natural gas deposits.
2. Both the United States and China ha _____ th _____ sa _____ number of embassies in Africa--forty-eight each.
3. Because of previous experiences and present perceptions, individuals may perceive themselves in ways diff _____ fr _____ t _____ ways others see them.
4. After completing each task in both pa _____ o _____ th _____ study, the participants were asked to rate their confidence, satisfaction, and frustration on a 7-point Likert scale.
5. Due to a growing population and increased consumption, th _____ am _____ o _____ solid waste generated in Malaysia increased from 16,200 tons per day in 2001 to about 17,000 tons in 2007.
6. Resources are one of two essential components for change at a small state college. In fact, without new resources in the form of money, time and energy, t _____ pro _____ o _____ change would have been impossible to carry out.
7. Teachers who work in state schools come face to face with more misbehaviors than the teachers who work in private schools. This may be th _____ res _____ o _____ the home environment that students come from.

8. Recent studies reveal that immigration is going to continue to challenge our schools. Many of the schools are not adequately prepared to assist students with limited English proficiency. This paper discusses **th** _____ **pro** _____ **o** _____ immigrant students who are English limited, and how currently available translator programs can be used to help them.
9. People like Hanny van Arkel are often **ref** _____ **t** _____ **a** _____ amateur astronomers.
10. Talking to peers is easier **be** _____ **i** _____ **i** _____ based on equality, a condition that is less common in conversations with adults.
11. For ease of interpretation, most findings were presented **i** _____ **t** _____ **fo** _____ **o** _____ percentage and descriptive statistics.
12. Coaching elite athletes is not **th** _____ **sa** _____ **a** _____ coaching recreational youth athletes.
13. The rationale, according to Friedman, is that when a country reaches **th** _____ **le** _____ **o** _____ economic development required to support a McDonald's, people in that country will stop fighting wars for fear of the resultant economic and personal losses.
14. Such analyses were always used to compare two or more treatments **i** _____ **or** _____ **t** _____ demonstrate one's superiority.
15. Particularly in rural areas in Zimbabwe, women are **li** _____ **t** _____ **b** _____ dependent on their guardians -- either male relatives or, after marriage, their husbands-who speak on their behalf.
16. Within a subsystem **th** _____ **a** _____ **thr** _____ systems - social, cultural, and personality - all of which are interrelated to one another and to the larger systems of society, nations, or to the global village - the world.
17. If more students begin behaving like consumers, colleges and universities may start providing information that affords greater insight into **th** _____ **va** _____ **o** _____ **th** _____ education they offer
18. These instruments measure intelligence through **a** **se** _____ **o** _____ subtests grouped into a " verbal " and a " performance " scale.
19. Approximately half of those interviewed pointed **o** _____ **th** _____ **th** _____ Ethiopian flag colors are now universally considered the colors of Africa and representative of an African identity.
20. Adults fail to appreciate that teasing can be quite stressful for the child and do not understand that embarrassment in **th** _____ **pre** _____ **o** _____ peers is a major fear of elementary-age children.

21. If you were in a darkroom, **th** _____ **wo** _____ **b** _____ the beginning of the period of trial and error. Expose the paper, process, evaluate. Too light. Repeat. Too dark. Quite time consuming! In Photoshop, our feedback is immediate.

22. Although Alexis de Tocqueville visited America only thirty years before the Civil War, he incorrectly predicted a murderous race war between whites and blacks. He never anticipated that **th** _____ **qu** _____ **o** _____ slavery would be resolved on battlefields where whites would kill whites.

23. In 2003, Congress passed the Syrian Accountability and Lebanese Sovereignty Restoration Act . . . In addition, **i** _____ **res** _____ **t** _____ the Syria accountability act of 2003, Bush issued an order implementing this legislation, which restricted further trade between the two countries and prohibited Syrian aircraft from landing in the United States.

24. Where in our brain do we keep our ABCs? How does our brain provide us with **th** _____ **us** _____ **o** _____ alphabetic characters without thought?

25. In 2006, 1 064 160 people, of whom 130 997 (12.3%) were children and teenagers below the age of 18, were tried in courts for a variety of reasons (ASIGM, 2006a). As seen from these numbers, **th** _____ **ra** _____ **o** _____ juvenile delinquency is notably high.

26. **Th** _____ **a** _____ **sev** _____ reports currently available that predict the use of the cell phone in learning.

27. Divorce and separation is a common feature in the lives of **a** **la** _____ **nu** _____ **o** _____ children. Most are able to cope relatively well with their existing support networks. However, because it is such a common feature of family life, care should be taken not to minimize the pain and distress it causes many children and young people.

28. If students are enrolling in several traditional courses on campus, they **a** _____ **li** _____ **t** _____ adapt to different learning styles in order to accommodate their respective instructors.

29. The goal of environmental education, may be achieved with a team of well trained, dedicated, religious, socially and environmentally literate teachers. Environmental literacy is an important issue not only for environmental education but for education **a** _____ **a** **wh** _____.

30. The importance of interacting with peer's peaks at middle adolescence. **A** _____ **th** _____ **st** _____, adolescents value group over family identity (Busen, 2001).

31. The data are preliminary and with the small sample size, **i** _____ **i** _____ **n** _____ **po** _____ **t** _____ make definitive statements about the relative performance of the strategies.

32. Second, the parental focus of the research is of value to educators because parent involvement has **be** _____ **sh** _____ **t** _____ influence students' positive self-confidence, self-esteem, and academic success.

33. According to instructors, web-based courses offer students more flexibility and control over when and where to participate (Ostiguy and Haffer, 2001), which can lead to greater motivation for students to excel (St. Clair, 1999). Learning in web-based courses **ca** _____ **als** _____ **b** _____ more active (Hacker and Niederhauser, 2000), more student-centered (Sanders, 2001) than taking notes in traditional, passive lectures, and can encourage students to learn in different ways (Yazon et al., 2002).

34. This listening unit is organized into five events. Each of these events is a stage of the unit and may require between one and four class sessions, **de** _____ **o** _____ **th** _____ amount of time a teacher chooses to focus on jazz and jazz artists.

35. Researchers comparing men's and women's dissatisfaction with their weight should **ta** _____ **in** _____ **acc** _____ the direction of the dissatisfaction. Dissatisfaction with body image in women is normally shown by their desire to lose weight, whereas as many men want to gain weight as lose it.

36. We [professors] must focus on the long term and satisfy ourselves at the moment with the knowledge that one day, hopefully, our students will come to appreciate our efforts on their behalf. It is **fo** _____ **th** _____ **rea** _____ that we should not be overwhelmingly concerned with how our present students feel about us.

37. A student loves nothing better than to catch **hi** _____ **or h** _____ teacher messing up.

38. It is important to remember that parents generally desire more, as opposed to less, information about their child, even **i** _____ **the** _____ **a** _____ unable to articulate relevant questions (Pain, 1999; Quine & Pahl, 1986; Quine & Rutter, 1994).

39. The new Recycle Plus program enabled residents to subscribe to the smallest garbage cart and experience the lowest rates by recycling more. **A** _____ **a** **re** _____ **o** _____ **the** new system and increased education, yard trimmings recycling increased by 45 percent in one year.

40. Students can be involved in reflecting on their own progress and development **i** _____ **a nu** _____ **o** _____ ways - from journaling to rubric design to recorded assessment.

41. Once students become familiar and comfortable with the process they will, **i** _____ **mo** _____ **ca** _____, react passionately to various musical excerpts, eagerly convey their personal reactions in writing, and have much to say about what they are listening to.

42. The student's level of logic, vocabulary, interest, and maturity will help in determining how to organize your explanation. Broad topics must be simplified **s** _____ **th** _____ **th** _____ scope and detail of the topic are not overwhelming.

43. In some experiments in developing countries **i** _____ **i** _____ **diff** _____ for patients to refuse to participate -- one's only chance of receiving any treatment may be as " participant " in a trial (Nuffield Council on Bioethics, 2002, 2005).

44. Research findings indicate that specific instructional strategies, **su** _____ **a** _____ **th** _____ use of real-world examples and independent learning activities, are positively related to mathematics achievement.

45. Education in the American society **nee** _____ **t** _____ **b** _____ supported by the legal institution.

46. What changes are feasible? What changes are essential? **No** _____ **o** _____ **th** _____ questions are easy to answer -- especially the last two.

47. For example, while in one state geography is a required course in order to get a high school diploma, **o** _____ **th** _____ **o** _____ **ha** _____, there is not such an obligation in another state.

48. Approximately half of the participants also viewed family as **t** _____ **mo** _____ **im** _____ foundation for their children's life and tried to establish activities that all family members can participate in regularly.

49. In this paper, the author examines **wh** _____ **o** _____ **n** _____ students in early childhood education from a community college receive adequate gender-sensitivity training.

50. A review of the literature showed that **the** _____ **ar** _____ **n** _____ inclusive and detailed criteria for universal software design, although partial lists are available from some sources.

51. The orientation session was also used as an opportunity **t** _____ **en** _____ **tha** _____ all participants understood the intended meaning of the directions.

APPENDIX F

A. The Scale for Measuring Production of Academic Formulas on a C-test

3 - correct phrase; spelling issues possible but do not overlap with the issues with inflectional and/or derivational affixation;

2 - correct phrase; problems with inflectional morphology (e.g., *in term of* instead of *in terms of*) and issues with demonstrative pronouns (*in that case* instead of *in this case*);

1 - incorrect phrase but an attempt at production of correct phrase evident, which can be described as one of the following:

- a. problems with derivational morphology (e.g., *it is importance* instead of *it is important*)
- b. substitution of no more than ONE word within a phrase with another word of the same word category that is very similar in spelling, pronunciation, and/or meaning (e.g., *the effects of* instead *the efforts of*; *in the case* instead of *in this case*)

0 - little to no attempt to complete the phrase OR any combination of the issues described under the rating of 1.

(based on Jones & Haywood, 2004)

B. The Scale for Measuring Production of Academic Formulas in Writing

3 - correct phrase; spelling issues possible but cannot be mistaken for the issues with inflectional and/or derivational affixation;

2 - correct phrase; problems with inflectional morphology (e.g., *in term of* instead of *in terms of*)

1 - incorrect phrase but an attempt at production of correct phrase evident which can be described as one of the following:

- a. substitution of a preposition (e.g., *in the other hand* instead of *on the other hand*)
- b. pronoun confusion (e.g., *his or her* instead of *him or her*) or reversed order in compound constructions (*her or his* instead of *his or her*)
- c. omission of a function word (e.g., *as result* instead of *as a result*)

0 - no attempt to produce a target phrase OR any combination of the issues described under the rating of 1.

(based on Jones & Haywood, 2004)

APPENDIX G**Production of Academic Formulas in a Target-like Manner on a C-test at the End of Term in Percentage by Group**

<i>Academic formula</i>	<i>Group</i>	
	<i>Treatment</i> <i>N=31</i> <i>(%)</i>	<i>Contrast</i> <i>N=20</i> <i>(%)</i>
there are no	53	0
for this reason	27	0
in response to	23	0
at this stage	7	0
the use of	70	4
there are three	57	4
a series of	40	4
this would be	37	4
in most cases	37	4
it is not possible to	33	4
in the form of	30	4
the question of	20	4
his or her	50	9
the value of the	43	9
the presence of	43	9
to ensure that	40	9
if they are	37	9
referred to as	30	9
take into account	23	9
the rate of	60	13
whether or not	57	13
so that the	53	13
been shown to	20	13
the level of	50	17
the process of	47	17
as a whole	30	17
depending on the	30	17
such as the	60	21
likely to be	47	22
none of these	47	22
the problem of	43	22
are likely to	53	26
needs to be	53	26
out that the	40	26
it is difficult	40	26

as a result of	33	26
the most important	67	30
in a number of	87	35
on the other hand	73	35
the result of	43	39
parts of the	30	39
there are several	83	43
can also be	73	52
because it is	70	52
a large number of	77	61
in order to	83	65
the amount of	80	65
according to the	74	70
the same as	83	78
different from the	73	78
have the same	90	86

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Use of Technology for Learning Second Language Pragmatics

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Digital technology has great potential for second language (L2) pragmatics learning as it creates communicative contexts for learners to practice L2s. However, despite the growing interest in technology-enhanced learning, the efficacy of using technology on L2 pragmatics remains unknown. This paper examines the role of technology in L2 pragmatics learning and synthesizes the learning outcomes in previous studies. The researchers addressed the following: 1) The use of technology to develop L2 learners' pragmatic competence; and 2) Pragmatics learning outcomes and the means to document them. Twenty-one studies were selected after an exhaustive literature search and application of inclusion/exclusion criteria. The findings revealed three uses of technology: as an instructional tool; as a medium for communication; and as both. The findings showed positive results of using technology to facilitate pragmatics learning. However, the learning outcomes were documented in diverse ways across studies: through assessments before and after technology use or qualitative analysis on technology-mediated interaction. This paper further discusses how different conceptualizations of pragmatic competence affect technology use and learning outcomes.

Keywords: *Technology, CALL (computer-assisted language learning), CMC (computer-mediated communication), pragmatic competence, SLA (second language acquisition)*

INTRODUCTION

Pragmatic competence concerns second language (L2) learners' knowledge and ability to use L2 appropriately in given contexts (Taguchi & Roever, 2017). It entails an ability to employ knowledge effectively in real-time communication (Taguchi & Sykes, 2013). Moreover, learners' pragmatic competence can only be realized when they interact with other language users. To

a certain extent, what an interlocutor is able to do relies on what other interlocutors do in a given setting (Young, 2011). Through the social context learners negotiate and develop pragmatic competence. Thus, pragmatic competence is not only an individual trait of language ability, but also one that emerges in a sociocultural context.

As pragmatic competence emphasizes appropriate language use in context, traditional L2 classrooms often lack the resources to provide authentic input and varied social contexts (Taguchi, 2015). Technology offers great potential to overcome some of the barriers (Belz, 2007; Sykes, 2017; Taguchi & Sykes, 2013). Recent years have seen a growing interest in using technology for L2 pragmatics learning (Sykes, 2017; Taguchi & Roever, 2017; Taguchi & Sykes, 2013). Emerging technologies have expanded the venues for pragmatics learning by incorporating computer-assisted programs and platforms for computer-mediated communication (CMC). Unlike the face-to-face setting of traditional classrooms, technology-enhanced environments feature situated communicative practice and individualized learning. For example, researchers have developed context-rich online materials and computer-assisted programs (e.g., Sydorenko, 2015; Sykes, 2009, 2013). Written and oral chats through CMC have been used to connect learners with native speakers (NSs) (e.g., Belz & Kinginger, 2003; Gonzales, 2013).

Despite an increasing interest in technology-enhanced learning, the relationship between the use of technology and learning outcomes is still underexplored. This paper examines the roles of technology in pragmatics learning and the learning outcomes documented in previous research. This synthesis addresses the following two questions:

1. How is technology used to develop pragmatic competence in existing studies?
2. Which pragmatics learning outcomes exist in current studies and how are they documented?

THEORETICAL BACKGROUND

Pragmatic competence has been recognized as an essential component of L2 learners' communicative competence (Bachman & Palmer, 1996, 2010; Canale, 1983; Canale & Swain, 1980; Celce-Murcia, Dornyei & Thurrell, 1995). In Canale and Swain's (1980) and Canale's (1983) model, sociolinguistic competence entails the mastery of the sociocultural rules of language use, which involves pragmatic knowledge. In the Celce-Murcia et al. (1995) model of communicative competence, actional competence concerns learners' knowledge of language functions and speech acts, which is directly related to pragmatic competence. Bachman and Palmer (1996, 2010) explicitly identified pragmatic knowledge as a component of learners' communicative language ability. In their model, a main component of language knowledge is pragmatic knowledge, which includes functional knowledge (i.e., the relationship between forms and functions)

and sociolinguistic knowledge (i.e., the knowledge of context that restrains language use).

At variance from the aforementioned models, scholars taking a social approach to language learning consider learners' language ability as co-constructed by all participants during interaction (Hall, 1995; Young, 2008, 2011). For example, Young's (2008, 2011) model of interactional competence highlights how linguistic and interactional resources are mutually and reciprocally employed by all interactional participants. Interactional resources (i.e., speech acts, turn-taking, repairs, and boundaries) are essential in moment-to-moment interaction. As a social action, interpersonal communication provides resources for learners to develop pragmatic competence.

Combining cognitive and social approaches, Kecskes (2014) proposes the sociocognitive approach to intercultural pragmatics. Kecskes emphasizes prior knowledge and the emergent situational context in meaning construction and comprehension. According to Kecskes, communication is driven by both the individual (e.g., prior experience) and societal (e.g., situational experience) traits. On the one hand, interlocutors' prior knowledge influences language production and interpretation. On the other hand, interlocutors' language use accords with the actual situational experience during interaction.

This synthesis takes an inclusive approach and includes empirical studies that conceptualize pragmatic competence either as an individual cognitive trait or as a social construct. The goal is to examine the relationship between the use of technology and learners' pragmatic development.

METHODOLOGY

In order to locate primary studies, a systematic literature search was conducted using multiple online databases (i.e., LLBA, ERIC, PsycINFO, and Science Direct). Two groups of keywords were combined. The first group involved keywords related to technology: computer, technology, computer-assisted language learning (CALL), and computer-mediated communication (CMC). The second group involved keywords related to pragmatics: second language (L2) pragmatics, pragmatic competence, and speech acts. The database searches included articles published between 1996 and 2016. Studies of technological devices (e.g., written chat, oral chat, email, blogs, computer programs) were included. The titles and abstracts of articles identified in online searches were scanned, limiting the searches to studies related to L2 teaching and learning. In addition to online database searches, primary studies were also located from relevant review papers (e.g., Belz, 2007; Taguchi, 2015) and edited books (e.g., Taguchi & Sykes, 2013). This initial search yielded 78 articles from the online databases and edited books. The following inclusion/exclusion criteria were then applied to select studies that were relevant to this paper:

1. The study had to be a data-driven empirical study that used technology to promote L2 pragmatics learning. Studies that investigated L1

pragmatics or other aspects of L2 learning (e.g., lexis, grammar) were excluded.

2. The study had to measure or document learners' pragmatic competence before and after technology use.
3. The study had to have been published in peer-reviewed publications and written in English. Doctoral dissertations were not included.
4. The study had to investigate adult learners' pragmatic development in order to make the learning outcomes comparable. Studies dealing with children or young learners were not included.

This selection process yielded 21 primary studies (marked with an * in the reference section) for the current synthesis. Each study was first coded in accordance with participant characteristics (L1, L2, sample size, proficiency level) and the type of technology (e.g., email, blog, game). Based on the research questions, each study was further coded in accordance with the following features: 1) the role of technology (e.g., as an instructional tool, as a medium for communication); 2) pragmatic features (e.g., speech acts, politeness strategies, address forms); 3) measurement of pragmatic competence (e.g., discourse completion tests (DCT), role play, interaction data); and 4) evidence of pragmatic development (e.g., pre-post gain, frequency of pragmatic strategies). See Appendix A for a full list of coded features of the 21 studies.

RESULTS

The Role of Technology in L2 Pragmatics Learning

The first question asks how technology has been used to develop L2 learners' pragmatic competence. This synthesis revealed that technology was used in three ways: as an instructional tool (10 studies); as a medium for communication (eight studies); and both as an instructional tool and as a medium for communication (three studies).

As displayed in Appendix A, 10 of the 21 studies used technology as an instructional tool to teach target pragmatic features (e.g., speech act). Six out of the 10 studies in this group implemented CALL programs in the classroom or laboratory. Sykes (2009, 2013) developed a digital game to teach requests and apologies in Spanish. Learners in the intermediate-level Spanish classes participated in an online game (i.e., *Croquelandia*). Participants interacted with built-in characters to make requests and apologies (through multiple-choice questions) in different scenarios. Sydorenko (2015) used computer-delivered tasks to teach requests to intermediate-level English as a Second Language (ESL) learners. Learners watched video clips featuring request situations. The videos stopped at pre-determined places for learners to provide their oral responses (i.e., making request). Chiu, Liou, and Yeh (2007) implemented *CandleTalk* to teach six speech acts (e.g., greeting, parting, request, apology, complain, and compliment) to advanced English as a Foreign Language (EFL) learners in

Taiwan. In the program, students interacted with built-in characters through multiple-choice questions and recording their own oral responses. Gu (2011) used an English learning program *Connect with English* to teach requests to ESL learners in China. Learners watched videos from the program and received scripts and handouts to analyze the request strategies in the videos. Utashiro and Kawai (2009) developed *DiscourseWare* to teach reactive tokens (i.e., backchanneling) to intermediate and advanced learners of Japanese. The learners watched video clips of native speaker (NS) conversations and identified and analyzed the use of reactive tokens.

Four studies in the instructional group used CMC-based platforms to facilitate pragmatics instruction (Eslami & Liu, 2013; Eslami, Mirzaei, & Dini, 2014; Hirotani & Lyddon, 2013; Sykes, 2005). Sykes (2005) used written chat and oral chat to facilitate the learning of refusals for intermediate level ESL learners. Learners received instructions on making refusals and participated in role-play activities with classmates through written and oral chat. Other than Sykes (2005), the other three studies used CMC to connect learners with NSs. In Eslami and Liu's study (2013), advanced EFL learners received instruction on request-making from their language partners in the United States through emails and WebCT. Similarly, in Eslami et al. (2014), Iranian EFL learners received instruction on request-making from their partners in an American university. In Hirotani and Lyddon's study (2013), intermediate learners of Japanese in an American university and NSs in Japan created videos of self-introductions and uploaded them on YouTube. Learners then watched and analyzed the delivery styles and topic transitions in NS videos. CMC was used in these studies to deliver pragmatics instruction instead of facilitating authentic communication.

Different from the previous group of studies (technology as an instructional tool), eight out of the 21 studies implemented technology as a medium for communication (see Appendix A). These studies used CMC (e.g., written chat, blogs, emails) to connect learners with other L2 speakers. Among them, two studies used authentic online communication without structured tasks (Gonzales, 2013; Kim & Brown, 2014). Gonzales (2013) documented how one L2 Spanish learner (Bill) developed his conversation closing strategies through participating in a social networking site, *Livemocha*, over a year. Although his participation in *Livemocha* was part of the course requirement, Bill's interaction with other Spanish speakers on the site was self-guided and spontaneous. Similarly, Kim & Brown (2014) traced four L2 Korean learners' uses of address terms through their spontaneous interactions with NSs on various social networking sites (e.g., Facebook, Skype).

Five studies in this group (technology for communication) implemented telecollaborative tasks through CMC (Belz & Kinginger, 2003; Gonzalez-Lloret, 2008; Ishihara & Takamiya, 2014; Reinhardt & Ryu, 2013; Zhang, 2014). For example, Gonzalez-Lloret (2008) analyzed a U.S.-based L2 Spanish learner's interaction with her chat pal in Spain on a project-based task through Yahoo Messenger over 10 weeks. The task asked the learner and her NS peer to design a trip and to present their itinerary. Similarly, in Ishihara and Takamiya (2014) three

L2 Japanese learners in a U.S. university interacted with NSs during a blog-based program over 16-21 months. The learners posted blog entry every week on topics such as Japanese pragmatics (e.g., use of honorifics, ritual refusals) and social issues (e.g., medical care, immigrant children).

The third group of studies incorporated technology both as a medium for communication and as an instructional tool (see Appendix A). Following the same study design, these three studies combined telecollaboration with data-driven instruction. Learners in these studies engaged in authentic communication with NSs through CMC. Meanwhile, researchers developed pragmatics-focused teaching materials based on the online interaction between learners and NSs.

In Belz and Vyatkina's study (2005), intermediate learners of German in an American university interacted with NSs in Germany through email and text chat to work on several projects (e.g., building websites). Based on the interaction data, the researchers developed pragmatics instruction to explicitly teach the use of modal particles. Kakegawa (2009) studied intermediate level Japanese learners' interaction with NSs in Japan through an email-based project. Learners were taught to analyze and compare their use of sentence final particles with that of NSs in their email correspondence.

As described above, studies in the first group used CALL programs or CMC platforms (e.g., written chat) to deliver pragmatics instruction. Studies in the second group used CMC (e.g., written chat, blogs, emails) to connect learners with other L2 speakers (including NSs and L2 learners) in authentic communication. Studies in the third group combined these two components and implemented CMC (e.g., written chat, emails) as a medium for communication and as a resource for instruction.

Technology-enhanced Learning Outcomes

The second question asks what the pragmatics learning outcomes are and how they are documented in the existing studies. This synthesis revealed that the use of technology yielded positive learning outcomes. The 21 studies used technology and documented learning outcomes in different ways.

Learning Outcomes of Studies Using Technology as an Instructional Tool

As shown in Table 1, seven studies in the first group showed learners' improvements in the target pragmatic knowledge, whereas three studies showed modest gains at best (Hirofani & Lyddon, 2013; Sykes, 2009, 2013). The studies assessed learners' pragmatic changes through pre- and post- instruments (e.g., DCTs) but employed different ways to analyze learning outcomes (i.e., inferential statistics, descriptive statistics, and qualitative analysis).

Table 1
Learning Outcomes of Studies Using Technology as an Instructional Tool

<i>Study</i>	<i>L2</i>	<i>Type of Technology</i>	<i>Pragmatic Features</i>	<i>Assessment of PC</i>	<i>Evidence of Pragmatic Development</i>
Chiu, Liou & Yeh (2007)	English	CALL: CandleTalk	6 Speech acts (request, compliment)	Oral DCTs, questionnaire	Significant gain (t-test)
Eslami & Liu (2013)	English	Email, WebCT	Requests	DCTs	Significant gain (ANCOVA)
Eslami, Mirzaei, & Dini (2014)	English	Email, oral/written chats	Requests	DCTs, email data	Significant gain (ANCOVA)
Gu (2011)	English	CALL: Connect with English	Requests	DCTs, role play	Significant gain in DCTs (t-test); little change in role play
Hirotsani & Lyddon (2013)	Japanese	YouTube	Topic move and syntactic complexity	Videos of self-introductions	Increased number of same topic moves; no improvement in syntactic complexity
Sydorenko (2015)	English	CALL: computer-delivered tasks	Requests	Prompted response data	Increased use of conventionally indirect strategies, request, modifications, and supportive moves
Sykes (2005)	Spanish	Written chat (LAN), Oral chat (Wimba)	Refusals	Role-play	Increased use of refusal strategies in WC group

Sykes (2009)	Spanish	CALL: Croquelandia	Requests	DCTs, interview	Small gain (1-6%) in request strategies
Sykes (2013)	Spanish	CALL: Croquelandia	Apologies	DCTs, interview, survey	Little change in external modifiers; moderate changes in speaker-oriented to hearer-oriented perspective
Utashiro & Kawai (2009)	Japanese	CALL: Discourse-Ware	Reactive tokens	Recognition and production tests	Significant gain (ANOVA)

Note: CG: control group; PC: pragmatic competence; WC: written chat.

Most studies in this group used inferential statistics (i.e., ANOVA, t-test) and they all demonstrated significant gains (Chiu, Liou & Yeh, 2007; Eslami & Liu, 2013; Eslami et al., 2014; Gu, 2011; Utashiro & Kawai, 2009). For example, both Eslami and Liu (2013) and Eslami et al. (2014) used ANOVA to compare learners' performances in discourse completion tests (DCTs) before and after CMC-based instruction. Both studies showed that learners who received CMC-based instruction achieved significantly higher scores in post-DCTs compared to those who did not receive instruction.

Three studies used descriptive statistics to analyze the learning outcomes (Hirotaani & Lyddon, 2013; Sykes, 2009, 2013). They showed learners' little to modest changes in the target features. Hirotaani and Lyddon (2013) examined the discourse structures and syntactic complexity in L2 Japanese learners' self-introductions before and after video-based instruction. The results showed no improvement in syntactic complexity. Sykes (2009) revealed little change (1-6% gain) in learners' request strategies after participating in the game *Croquelandia*. Similarly, Sykes (2013) revealed a slight improvement on learners' use of apologies after participating in *Croquelandia*. The type and frequency of supporting moves (e.g., modifiers) did not show marked difference.

In contrast to the eight studies mentioned above, Sydorenko (2015) and Sykes (2005) took a qualitative approach to analyze learners' pragmatic gains. Sydorenko (2015) examined learners' response data (i.e., requests) through computer-delivered practices. Qualitative analysis showed that learners who practiced through the CALL task were better at producing native-like request forms (i.e., formulaic expressions) compared to those who practiced through role plays. Sykes (2005) investigated the effects of three types of group discussions—

written chat, oral chat and face-to-face discussion—on the learning of refusals. Role-play data showed that learners in the written chat group outperformed the other groups in terms of the complexity and variety of the refusal strategies.

Learning Outcomes of Studies Using Technology as a Medium for Communication

As shown in Table 2, the eight studies in the second group showed gradual pragmatic development through CMC-based interaction. These studies took a qualitative approach in analyzing the interaction data between learners and NSs.

Table 2
Learning Outcomes of Studies Using Technology as a Medium for Communication

<i>Study</i>	<i>L2</i>	<i>Type of Technology</i>	<i>Pragmatic Features</i>	<i>Assessment of PC</i>	<i>Evidence of Pragmatic Development</i>
Belz & Kinginger (2003)	German	Email, written chat	Address forms	Email and WCD	Replacing the formal V-form with the informal T-form
Gonzales (2013)	Spanish	Written chat: Livemocha	Conversation closings	WCD	Switching from foreshortened closings to extended closings
Gonzalez-Lloret (2008)	Spanish	Written chat: Yahoo messenger	Addressivity	WCD	Switching from formal address forms to informal forms
Ishihara & Takamiya (2014)	Japanese	Blogs	Address terms, sentence-final particles	Blog entries, research papers, background survey	Switching from formal address forms to informal forms; using sentence final particles for gender identity; style shifting to negotiate emerging identities
Kim & Brown (2014)	Korean	Facebook, Email, Skype, Twitter, Kakao	Address terms	WCD	Adjusting address forms based on NS feedback

Kinginger & Belz (2005)	German	Written chat	Address form	Email, WCD	Adopting the informal T-form over the formal V-form
Reinhardt & Ryu (2013)	Korean	Facebook	Honorifics	WCD, opinion survey	Development of using address forms to negotiate ongoing identities
Zhang (2014)	Chinese	Web conference	Conversation opening/closing	WCD	A greater variety of linguistic forms in opening and closing conversations

Note: PC: pragmatic competence; WCD: written chat data.

Studies in this group situated pragmatic competence in real-time interaction and demonstrated how learners' pragmatic development emerged from their online interaction with NSs. For example, Gonzalez-Lloret (2008) demonstrated that one learner (Vero) of Spanish improved her competence of using address terms through a tele-collaborative project. Conversation analysis of the interaction between Vero and her key pal showed Vero's progressive change from using formal and informal address forms randomly at the beginning of the project to an exclusive use of informal forms at the end. Similarly, Belz and Kinginger (2003) revealed L2 German learners' growing tendency of replacing the formal V-form with informal T-form when addressing their German peers.

Kim and Brown (2014) traced how three learners of Korean acquired the social meanings of address forms through interacting with NSs on social networking sites (e.g., Facebook). Conversation analysis showed that the learners skillfully adjusted their use of address forms based on the feedback they received from NSs.

Two studies documented learners' development on conversation opening and closing strategies (Gonzales, 2013; Zhang, 2014). In Gonzales (2013), the learner shifted his rapport management strategies from foreshortened closings to extended closings during his participation in *Livemocha*. Zhang (2014) showed that learners of Chinese gradually produced a greater variety of linguistic forms to open and end conversations through interacting with NSs online.

Learning Outcomes of Studies Using Technology as an Instructional Tool and as a Medium for Communication

As shown in Table 3, the three studies in the third group showed learners' pragmatic development from CMC-based interaction combined with pragmatics instruction. Studies in this group used both qualitative analyses and descriptive analyses to examine the online interaction data.

Table 3
Learning Outcomes of Studies Using Technology as an Instructional Tool and as a Medium for Communication

<i>Study</i>	<i>L2</i>	<i>Type of Technology</i>	<i>Pragmatic Features</i>	<i>Assessment of PC</i>	<i>Evidence of Pragmatic Development</i>
Belz and Vyatkina (2005)	German	Email, written chat	Modal particles	WCD	A marked increase in the frequency (4 to 41 times) and accuracy (25%-90%) of using modal particles
Cunningham and Vyatkina (2012)	German	Web conference	Modal verbs and subjunctive mood	WCD	Increased use of modal verbs; Moderate effect on the use of the subjunctive mood
Kakegawa (2009)	Japanese	Email	Sentence final particles	Email data	Increased frequency (almost 3 times), range, and accuracy of using particles

Note: PC: pragmatic competence; WCD: written chat data.

Belz and Vyatkina (2005) demonstrated a marked increase in the frequency and accuracy of modal particles used by the learners after pragmatics instruction. Qualitative analysis and descriptive analysis of the online interaction data showed learners' marked improvements on the range, accuracy, and appropriateness of using modal particles. Similarly, Kakegawa (2009) compared the frequency, accuracy, and range of sentence final particles produced by L2 Japanese learners in their email correspondence with NSs. Descriptive statistics showed that learners increased the use of sentence final particles by almost three times after instruction. Qualitative analysis demonstrated enhanced understanding of the use and functions of sentence final particles.

In Cunningham and Vyatkina's study (2012), learners of German at an American university interacted with NSs in Germany during four Web conferences. Between the conferences, researchers implemented pragmatics instruction by focusing on modal verbs and the subjunctive mood. Qualitative analysis of the interaction data revealed a significant increase in the use of modal verbs to express politeness.

To sum up, corresponding to the different ways of using technology, previous studies also documented and analyzed learning outcomes differently. In the first group of studies, learning outcomes were measured by learners' performances in pre- and post- instruments (e.g., DCTs). These studies varied in their methods of data analysis (i.e., inferential statistics, descriptive statistics, and qualitative analysis). In the second group of studies, learning outcomes emerged as qualitative changes in the use of focal features (e.g., address forms). In the third

group of studies, learning outcomes were revealed through both qualitative and descriptive analyses of CMC-mediated interaction.

DISCUSSION

As described above, previous studies used technology in three main ways: as an instructional tool, as a medium for communication, and as both. Whereas most studies showed positive learning outcomes, each approach of using technology revealed pedagogical strengths and challenges. The first group of studies used technology (e.g., CALL programs) to teach how to use linguistic forms in different contexts. The strengths were shown in using technology to provide focused instruction and practice on target pragmatic features (e.g., speech act). Incorporating multimedia resources, CALL programs often provide videos or pictures to direct learners' attention to the conversational settings. This may be especially beneficial for pragmatics learning because pragmatics concerns appropriate language use in social contexts. Compared to traditional teacher-led learning, CALL programs also allow learners to move at their own pace and receive individualized feedback. Some CALL programs offer opportunities for oral practice so learners can record their utterances and compare them with those of NSs (e.g., Chiu, et al., 2007; Sydorenko, 2015). However, the development of CALL programs requires technical skills that many educators may not have. Moreover, many CALL programs were developed by researchers to teach one specific aspect of pragmatic competence (e.g., request), which can be limited in teaching practice. More importantly, the social situations presented in CALL programs were artificially created, thus might not represent the complex real-life situations and social consequences.

In studies where technology was the medium for communication, learners engaged in authentic communication with native speakers. Thus, learners used L2s in meaningful ways and gradually gained understanding of the social rules of language use. This approach has the strength of exposing learners to real-life interaction with NSs. To build relationships with others, learners are pushed to pay attention to language use. However, without focused instruction, learners' pragmatic development tend to be spontaneous and unstructured. Although certain pragmatic aspects such as address forms are particularly relevant in this case, other pragmatic features may go unattended by learners. Nothing guarantees that learners will acquire pragmatic competence.

The third group of studies showed the advantages of incorporating focused instruction with opportunities for real-life interaction. Learners received explicit instruction on certain pragmatic features and applied it via CMC-based communication. Through this approach, learners can not only use language in meaningful ways but also learn to use certain features appropriately. This may be beneficial for learning with well-planned telecollaborative programs. It is worth noting that telecollaborative programs often involve a long period of time (e.g., several months). To design a CMC-mediated program, educators need to consider

how the telecollaborative tasks fit into learners' overall curriculum and closely align the tasks and instruction with specific learning goals.

This synthesis demonstrated that different ways of using technology essentially reflected different conceptualizations of pragmatic competence, which was not explicitly stated in existing studies. In other words, it was not simply the type of technology use (e.g., CALL, CMC), but more importantly the conceptualization of pragmatic competence that affected how technology was implemented and how learning outcomes were documented.

Studies using technology as an instructional tool viewed pragmatic competence as an individual-cognitive trait, emphasizing pragmatic knowledge that individual learners possess. These provided explicit instruction through technology-enhanced platforms. On the other hand, studies using technology as a medium for communication viewed pragmatic competence as a social construct. In those studies, pragmatics learning was situated in social interaction. CMC provided a platform for learners to engage in meaningful communication with other L2 speakers. Studies using technology both as an instructional tool and as a medium for communication viewed pragmatic competence as both learners' individual-cognitive traits and as a social construct. Learners not only participated in meaning-driven communication, but also received explicit instruction.

IMPLICATION AND FUTURE DIRECTION

This synthesis showed that the use of technology yielded positive pragmatics learning outcomes. Whereas most studies showed marked pragmatic development, three studies revealed only little to modest gain (Hirotnani & Lyddon, 2013; Sykes, 2009, 2013). Possible explanations for the small improvements in these studies provide important implications for future research. First, Sykes (2009, 2013) highlighted the inconsistency in measuring and analyzing learning outcomes in previous studies. The learning outcomes in both studies were measured by DCTs. As mentioned by Sykes (2009), the use of DCTs might not be appropriate to measure what learners acquired from an immersive game experience. Also, Sykes (2009, 2013) used only two DCT scenarios, which might be too limited to reflect learners' actual pragmatic competence. Thus, the appropriate methods of assessing and analyzing different aspects of pragmatic competence should be thoroughly discussed in future research.

Hirotnani and Lyddon (2013) suggested the importance of aligning target pragmatic features with instructional design (e.g., length of treatment). The study analyzed two sets of videos learners made before and after an awareness-raising session during a three-week period. However, the target feature, syntactic complexity, requires a great control of textual cohesion and composition strategies. As mentioned by Hirotnani and Lyddon (2013), a total of three weeks with only one session of instruction was probably not sufficient to lead to significant changes on syntactic complexity. Therefore, technology-enhanced tasks (e.g., treatment length) need to be carefully aligned with learning objectives.

As mentioned above, this synthesis showed tremendous variations in the assessment and analysis of pragmatic gains. Even among studies in the same category, learning outcomes were measured and analyzed differently (i.e., instruments, data analysis methods). More discussion is needed about the appropriate measurements of different aspects of pragmatic competence.

This synthesis also points to directions for future research. First, more studies need to measure learners' pragmatic changes before and after technology use. Many studies were excluded from this synthesis because they only reported the design of certain computer-assisted materials without measuring learning outcomes. Second, more studies are needed to examine the effectiveness of using technology in L2 pragmatics learning. As reviewed in this paper, many studies explored the affordances of technology use for learning but did not examine the exact effect. It will also be beneficial to have studies explicitly compare technology-enhanced learning with classroom learning so that we may better understand the unique benefits and challenges of technology-enhanced learning. Only three existing studies compared technology-enhanced learning with other types of learning experience (e.g., face-to-face) (Eslami & Liu, 2013; Sydorenko, 2015; Sykes, 2005).

Finally, the area of technology-enhanced pragmatics learning will benefit from the expansion of target pragmatic features and L2s. Currently, speech acts (eight studies) and address forms (five studies) were the features studied most, whereas other features were underrepresented. Also, although current studies represented six different languages, only a few studies each language: English (5); German (5); Spanish (5); Japanese (4); Korean (2); and Chinese (1). Further studies of varying pragmatic features and L2s will broaden the scope of research and enrich our understanding.

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APPENDIX A
Primary Features of the Studies

<i>Study</i>	<i>Participants (L1, sample size)</i>	<i>L2</i>	<i>Proficiency</i>	<i>Type of technology</i>	<i>Pragmatic features</i>	<i>Assessment of PC</i>
Studies that used technology as an instructional tool						
Hirotsani & Lyddon (2013)	English, 15	Japanese	Intermediate	YouTube	Discourse structure	Video data (self introduction)
Gu (2011)	Chinese, 40	English	Intermediate to advanced	CALL: Connect with English	Requests	DCTs, role play
Eslami, Mirzaei, & Dimi (2014)	Arabic, 72	English	High Intermediate	Email, oral/written chats	Requests	DCTs, email communication data
Eslami & Liu (2013)	Chinese, 118	English	Advanced	Email, WebCT	Requests	DCTs
Chiu, Liou & Yeh (2007)	Chinese, 49	English	Advanced	CALL: CandleTalk	6 Speech acts	DCTs, questionnaire

Belz & Kinginger (2003)	English, 14	German	Intermediate	Email, written chat	Address forms in German	Email and WCD
Studies that used technology as a medium for communication						
Utashiro & Kawai (2009)	English, 24	Japanese	Intermediate and advanced	CALL: DiscourseWare	Reactive tokens	Recognition and production tests
Sykes (2013)	English, 25	Spanish	High Intermediate	CALL: game (Croquelandia)	Apologies	DCTs, interview, survey
Sykes (2009)	English, 53	Spanish	High Intermediate	CALL: game (Croquelandia)	Requests	DCTs, interview
Sykes (2005)	English, 27	Spanish	Intermediate	Written chat (LAN), Oral chat (Wimba)	Refusals	Role-play
Sydorenko (2015)	Mixed L1s, 17	English	Intermediate	CALL	Requests	Prompted response data

Reinhardt & Ryu (2013)	English, 9	Korean	Elementary	Facebook	Honorifics	WCD, survey
Kinginger & Belz (2005)	English, 1	German	Intermediate	Written chat	Address form	Email and WCD
Kim & Brown (2014)	English, 4	Korean	Elementary and intermediate	Facebook, Email, Skype, Twitter, Kakao	Address terms	WCD
Ishihara & Takamiya (2014)	English, 3	Japanese	Intermediate	Blogs	Address terms, sentence-final particles, style shifting	Blog entries, research papers for the course, background survey
Gonzalez-Lloret (2008)	English, 1	Spanish	Intermediate	Written chat: Yahoo messenger	Address forms	WCD
Gonzales (2013)	English, 1	Spanish	Intermediate	Written chat: Livemocha	Conversation closings	WCD

Zhang (2014)	English, 14	Chinese	Elementary	Web conference	Conversation closings	WCD
Studies that used technology as an instructional tool and as a medium for communication						
Belz & Vyatkina (2005)	English, 16	German	Intermediate	Email, written chat	Modal particles	Email and WCD, questionnaire
Cunningham & Vyatkina (2012)	English, 9	German	Intermediate and advanced	Web conference: Adobe Connect Pro	Mood and modality	WCD
Kakegawa (2009)	English, 11	Japanese	Intermediate	Email	Sentence final particles	Email data

Note: PC: pragmatic competence; WCD: written chat data

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Technology-mediated TBLT in a Hybrid Environment: Bridging Content and Language Production

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This article examines the use of technology-mediated, task-based language teaching (TBLT) in a hybrid environment as an instructional approach in an intermediate-level Spanish course. It (a) evaluates elements of a hybrid course that was developed with computer-assisted language learning (CALL) materials to help learners improve their Spanish, focusing on two areas of specialization—engineering and business; (b) examines the effectiveness of the course materials and curriculum with a focus on CALL readings; (c) demonstrates that the technology-mediated TBLT approach in the hybrid learning environment was successful in linking content and language; and (d) establishes that the learners' speaking skills had improved over the course with a computerized oral assessment. Language assessment results indicate that the technology-mediated TBLT program not only had an impact on intermediate Spanish learners' speaking skills, but also prepared learners to perform tasks in both the target language and their fields of interest (i.e., business and engineering). The results contribute to the research of the effectiveness of technology-mediated TBLT.

Keywords: *hybrid; technology-mediated TBLT; content-based; CALL readings; language assessment*

In comparison to the traditional face-to-face classroom, today more foreign language classes are offered in online, hybrid, and flipped formats that require students to use technology to complete language tasks. Some examples of how technology and tasks are interconnected include the following: (a) computer-assisted language learning (CALL) readings as a core-task including pre-and-post reading tasks; (b) speaking or writing tasks, such as a conversation or online chat with a native speaker by means of synchronous computer-mediated

communication (CMC); (c) speaking and writing tasks, such as leaving a message on an answering machine or writing a report on how to operate a machine by means of asynchronous tool that does not occur in real time; and (d) online sessions in a virtual environment with the teacher and other learners that occur in real time. As González-Lloret and Ortega point out (2014), “language educators are increasingly interested in welcoming into their teaching current Web 2.0 technologies” (p.2).

In technology-mediated, task-based language teaching (TBLT), tasks must be well designed, used, and evaluated in an approach that suits various language teaching formats and technologies. González-Lloret and Ortega (2014) also mention that technology-mediated TBLT helps systematize the technological designs of tasks. If the integration of technology and tasks is well driven by the technology-mediated TBLT framework, supported by Second Language Acquisition (SLA) theories, language learning tasks “can help minimize students’ fear of failure, embarrassment, or losing face; they can raise students’ motivation to take risks and be creative while using language to make meaning...” (p.4).

CALL research has investigated the effectiveness of TBLT (Ziegler, 2016) and tasks for language learning (Thomas, Reinders, & Warschauer, 2013), but there is a dearth of studies that investigate the synergies between TBLT and CALL (González-Lloret & Ortega, 2014). More research in the modern classroom setting with different teaching formats is needed to shed light on more innovative implementations of TBLT and CALL. In this study, technology-mediated TBLT and CALL materials were adopted for a Spanish hybrid course that prepares students for professional, real-world communication in the target language. The hybrid format in this case included both traditional face-to-face classroom time and CALL tasks for students—individually and in small groups—via *Second Life*.¹

The Spanish hybrid intermediate course for undergraduate students at Iowa State University was developed after the type of language that students needed to focus on was identified. A needs analysis informed the director of the Spanish language program that these second language (L2) learners needed to be able to perform tasks in two areas of specialization: engineering and business. In accordance with student needs, tasks were designed based on four features from the technology-mediated TBLT approach—focusing on 1) meaning, 2) goal orientation, 3) holism, and 4) learner-centeredness. The course provided examples of the effectiveness of CALL readings, illustrated the success of the technology-mediated TBLT approach in the hybrid environment for linking content and language, and showed, through the results from a computerized oral assessment, that students overall spoken skills had improved.

The evaluation of the Spanish hybrid intermediate course was guided by two questions:

- 1) What types of language and content features from the CALL readings did the learners acquire?
- 2) Within the hybrid environment, what was the L2 learners’ overall Spanish skill as measured by the *Versant² Spanish Test*?

LITERATURE REVIEW

Task-based language teaching is an approach to second and foreign language education with a task as its main component of the learning process. The focus of the task is to create meaning with a clear outcome and promotes authentic language use (García Mayo, 2015). The idea of TBLT is to carry out tasks in L2 that native speakers would do in real-life situations (Long, 2015; Van den Branden, 2016). In addition, Norris (2009) states that TBLT is an approach in L2 instruction “that integrates theoretical and empirical foundations for good pedagogy” (p. 578) with tasks that allow learners to use the language in a meaningful way. The ideas underlying the approach are built on educational philosophies; the SLA theories, such as the output hypothesis and the cognitive approach from the psycholinguistic perspective; and the empirical findings on effective instructional techniques. Reviewing the origins of TBLT, Norris (2009) explains that in Dewey’s (1933) book, the concept of “experimental learning” (p.579) or learning by doing was already adopted. Since then, emphasis has been placed on the significance of learners’ motivation, which promotes their involvement in the instructional content and use of knowledge and skills outside classroom.

Tasks as the Foundation of TBLT

There are multiple definitions of *task* (Bygate, 2016), but for this study the working definition of *task* by González-Lloret and Ortega (2014) is used. Their definition, in accordance with the context of technology-and-task integration, integrates definitions by Nunan (2004), Skehan (2003), and Willis and Willis (2007) from a pedagogical perspective. Nunan (2004) defines a task as “a piece of classroom work that involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than to manipulate form” (p.4). The basic definition of task by Willis and Willis (2007) is a problem presented to a student for which he or she needs to find a solution relevant to a real-world situation. Bridging content with language production starts with the identification of tasks. As Willis and Willis (2007) propose, the vocabulary focus in a lesson is a good starting point for the definition and identification of tasks, but the instructor needs to also examine the particular task in which this vocabulary can be put into practice. That is, the instructor should design tasks to promote authentic language use, giving learners the freedom to control the language use rather than the language being decided by the teachers (Willis & Willis, 2007). Skehan (2003) adds to the definition of task, stating that meaning is crucial and the outcome is measurable.

González-Lloret and Ortega (2014), bringing together these explanations of task, define task by following the five key principles drawn from SLA research:

1) *primary focus on meaning*: language focus should be implicit; 2) *goal orientation*: tasks must have a communicative purpose and outcomes resulting from task completion; 3) *learner-centeredness*: tasks should include learners' needs and wants, so a needs analysis is necessary; 4) *holism*: tasks need to reflect authentic language use; and 5) *reflective learning*: tasks should raise learners' awareness of the usage of the language.

Learners can be successful in acquiring oral output (Nielson, 2014), grammatical accuracy (González-Lloret & Nielson, 2014), and vocabulary (Chacón, 2012), depending on how tasks are designed. When designing tasks, Nunan (2004) states that the focus on form in TBLT is controversial. Advocates of focusing on form consider manipulation of language forms necessary to complete the task (Norris, 2009; Nunan 2004). In other words, one must focus on accuracy in addition to meaning and communication. Arguably, researchers posit that it is better to have a meaningful task with a clear outcome without eliciting a particular grammatical structure. Learners will be successful in completing the task when they are exposed to the target language and there are no linguistic constraints (Krashen, 1985). Skehan (2003) contends that mastery of linguistic knowledge is required before learners are able to use L2. We agree with advocates of integrating focus on form and meaning in learning tasks because research has found it is more effective for achieving L2 accuracy. Furthermore, form and meaning are two aspects necessary for language learning and acquisition (Choi & Kilpatrick, 2013-2014).

Technology-mediated TBLT

In the technology-mediated TBLT framework proposed by González-Lloret and Ortega, technology is integrated in tasks. The framework includes three requirements: 1) a clear definition of task as presented in the previous section describing the five features of a task to guide the design of the task and the selection of technology; 2) implications of integrating technology in L2 educational settings; and 3) integration of tasks and technology in the L2 curriculum.

Regarding the first requirement, Wang (2014), focusing on meaning, designed tasks in *Second Life* using English as a foreign language to foster communicative skills. Wang's results indicated that learners needed to be trained to use technology for task completion. Nielson (2014) emphasized learner-centeredness by carrying out a needs analysis for an online task-based Chinese course before designing the tasks. Learners used asynchronous written communication and synchronous role-plays, and the results indicated improvement in speaking proficiency as a result of the course. Stockwell (2010) focused on linguistic outcomes through goal orientation. Learners used asynchronous CMC to prepare class presentations and produced complex sentences as they had time planning and preparing for the task. Learners also used synchronous CMC to write a paper, producing accurate shorter sentences. These studies showed using tasks with one or two features proposed by González-Lloret

and Ortega (2014), whereas research is lacking in using tasks that rely on three or more of the five features.

The second requirement is to examine the technological implications of TBLT. Teaching language with technology globally requires students and teachers to learn in different ways (González-Lloret, 2016). González-Lloret and Ortega (2014) see technology as “not just a vehicle of instruction or delivery, but instead spearheads a set of new demands and actions which in and of themselves become target tasks and hence part of the curriculum” (p.7). Nielson (2014), Stockwell (2010), and Wang (2014) have implemented technology in TBLT and have empirically assessed the effectiveness of TBLT. Their studies indicated that some tools influenced implementing authentic tasks and improving specific skills. As there is a dearth of studies that present the implications of technology integration in tasks (Ziegler, 2016), González-Lloret (2016) calls for more research about technology-based L2 tasks.

The third requirement, according to González-Lloret (2016), is the relationships of technology and tasks in curriculum. Technology affects the design, implementation, and assessment of the curriculum (González-Lloret, 2016; Nielson, 2014). That is why the use of the technology-mediated guidelines proposed by González-Lloret and Ortega, (2014) is relevant.

THE SPANISH HYBRID COURSE

Needs Analysis and Materials Development

Whereas the Spanish language program at Iowa State University focuses on humanities, science and engineering play a central role in the general curriculum of the university. We began the design of the hybrid course with a needs analysis, as in developing and implementing a TBLT curriculum, analysis of learners’ needs, goals, and occupational demands helps identify the learning outcomes to be reached in a course (Norris, 2009).

Students enrolled in the Language and Cultures for the Professions Program completed a survey about the content they were interested in when learning Spanish. Responses identified five areas of interest: engineering, business, agriculture, criminal justice, and biology. Engineering and business, which were requested most, were selected as course content. CALL reading materials with multimedia glosses, pre-and-post speaking and writing tasks, self-correcting and other exercises were created, using authentic materials (i.e., texts written by and for native speakers). In addition, readings in humanities were also incorporated, using the texts and glosses from the course textbook, *Interacciones*, by Emily Spinelli, Carmen García, and Carol Galvin Flood (2008). CALL readings and tasks were developed to supplement textbook readings. Even though CALL readings in humanities were part of the course, this paper does not include them. Instead, the paper focuses on the CALL readings and tasks on the domains of business and engineering, which were added to the course at the request of the students.

Materials for two semesters were created. The first semester included the first six chapters from *Interacciones*. The second semester included the remaining chapters (7-12). For the first six chapters in the first semester, twelve CALL readings in humanities with corresponding speaking tasks were developed. For the second semester, six CALL readings on business with corresponding speaking tasks and six CALL readings on engineering with corresponding speaking tasks were developed. The content of the readings was thematically aligned with that in the textbook. For example, Chapter 7 of the textbook was about the history, use, popularity, and market of the *guayabera*, a piece of clothing that men from Latin American countries wear. The reading in business focused on agreements for commercial exchanges between Panama and Cuba, including import and export products such as *guayabera* from Panama to Cuba. Meanwhile, the reading in engineering focused on the process for making saddlebags with the fabric of a beach umbrella. The reading provided special instructions and descriptions of the technical characteristics of the tools used, similar to those that one could find in an engineering textbook.

A technology-mediated TBLT approach was adopted in course design to enhance students' language experience. Students were provided with content that is in alignment with the linguistic demands of their professions. The adoption of authentic texts was crucial as the input presented in the text corresponded to real-world tasks, such as an engineer who is required to explain the technical characteristics of a piece of new equipment (see Appendix A for sample tasks).

Instructional Delivery

In addition to the traditional classroom setting that included all students, the class was divided into small groups (4-5 students) for online sessions, which allowed students to have a semi-private lesson and the chance to interact more with the instructor and other students. The instructor spent 200 minutes interacting with students as s/he would do in a face-to-face classroom, but students had 125 minutes a week working with the instructor and classmates. The instructor met students four times a week: two days in classroom with the entire class for 50 minutes (50 min. x 2 days = 100 min.) and two days online with four small groups (25 minutes x 4 groups = 100 min.). During the face-to-face meetings students worked with the textbook (see Table 1).

Table 1
Hybrid Course Design for Meetings

	<i>Face-to-face meetings</i>	<i>Second Life online meetings</i>	<i>Total time</i>
<i>Instructors</i>	2 days = 100 min.	2 days = 100 min.	200 min.
<i>Students</i>	2 days = 100 min.	1 day = 25 min.	125 min.

Technology

WebCT was the Learning Management System used to manage the course and provide materials for students. Video tutorials informed students about the CALL readings, tasks, and the hybrid mode of delivery. The tools integrated in WebCT included: (1) *Wimba* for students to produce asynchronous speaking output by recording themselves when responding to a specific task in engineering and business. One of the benefits of using *Wimba* was that it allowed students to receive more input from other students so that they could see how others completed the task. Furthermore, students had more time preparing for language production to improve accuracy; (2) *Second Life* for instructors to interact with learners, correct tasks, and provide feedback; for students to do role-play tasks and interact in real time with a Spanish native speaker; (3) A computer lab where proctored examinations of listening, grammar, vocabulary, writing, and self-assessments were conducted; and (4) CALL readings with multimedia glosses, pre- and post-reading tasks for texts in the humanities and speaking tasks in business and engineering, which we called *Un Paso Más* (UPM) [*A Step Further*]. The instructional aids in the CALL materials promoted learner independence when they interacted with a text. To facilitate reading comprehension and the acquisition of linguistic knowledge, multimedia glosses with lexical and grammatical explanations, in picture or in video, were integrated into the readings, which assisted students to master the meaning, pronunciation, synonyms of the words. Figure 1 shows the linguistic expression *se lleve a cabo* [*carried out*] in a business reading, which students used to complete a UPM oral task. Lexical knowledge is an important component of language proficiency. Numerous empirical studies have shown that there is a “relationship between vocabulary knowledge and language reception and production” (Beglar & Nation, 2014, p.1). Moreover, having a large vocabulary is necessary to speak efficiently and “a key factor underlying speaking proficiency” (Beglar & Nation, 2014, p.5).

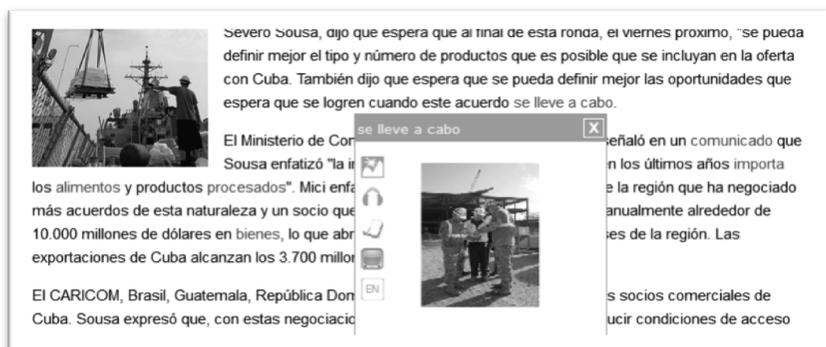


Figure 1.
Gloss Interface in the Business Reading Material

Task Design

Twelve speaking tasks on business and engineering were designed, guided by the four features recommended by González-Lloret and Ortega (2014):

(1) *Focus on meaning*: While working with a task, “learners [were] able to use any linguistic resources at their disposal in order to complete the task” (Nunan, 2004, p.94). For example, learners in this study had a textbook lesson focusing on the grammar features of past perfect and perfect conditional and then they worked on an oral UPM task corresponding to the content in a CALL reading. The task did not include directions of using a particular structure (past perfect or perfect conditional). When designing the task, however, we integrated meaning and form of some linguistic units (Chapelle, 2003; Nunan, 2004; Willis & Willis, 2007; Van den Branden, 2016), provided comprehensible and salient input (Krashen, 1985; Chapelle, 1998), and required comprehensible output from students (Swain, 1985), as these are necessary for second language development (Long & Robinson, 1998, Choi & Kilpatrick, 2013-2014). As González-Lloret (2016) noted, the TBLT’s main goal is “language acquisition and not just communicative effectiveness” (p.3). We gave students the chance to think about language when completing a task. The course materials (the textbook, CALL readings, and other resources) allowed students to focus on form if they wanted to manipulate and practice language form (e.g., identifying phrases and specific words) and practice technical vocabulary. Students “decide what to focus on and why” (Willis & Willis, 2007, p.132).

(2) *Goal orientation*: The tasks included learning outcomes based on the “can do” statements at the intermediate level from the *Common European Framework of Reference for Languages: Learning, teaching, assessment* (CEFR) (Council of Europe, 2001). According to Willis and Willis (2007), “can do” statements can be seen as learning outcomes that learners should be able to achieve as a result of completing a task or a course. The outcomes of the tasks were measured against the “can do” statements (see Appendix A), namely, the amount and quality of information, language accuracy, fluency, vocabulary use, and comprehensibility. When evaluating the UPM task outcomes, the use of target forms (in terms of frequency) was also observed.

(3) *Learner-centeredness*: As mentioned previously, the course was designed based on learner needs. Tasks were designed to engage students by providing content relevant to their interest and opportunities for them to use the language. Willis and Willis (2007) point out that time for planning before language production is imperative. In the UPM tasks, learners were not under time pressure for immediate production.

(4) *Holism*: Tasks were created to simulate real life professional demands in the content areas. The authenticity of tasks came from the content of the authentic CALL readings. The design of the tasks focused on meaning, the overall outcome, not on mastery of a particular linguistic form. The tasks resembled what professionals would do in a real-life context.

The Process of Completing Tasks

The task consisted of four steps: 1) responding to open-ended pre-reading questions to predict the theme; 2) reading the CALL text; 3) completing the post-reading questions via an online quiz based on reading comprehension and vocabulary; and 4) completing a UPM task either through writing or speaking (see Figures 2 and 3). Learners were given the choice of selecting one field—engineering or business—and switching fields from chapter to chapter.



Figure 2
Interface for Tasks within the Engineering Theme

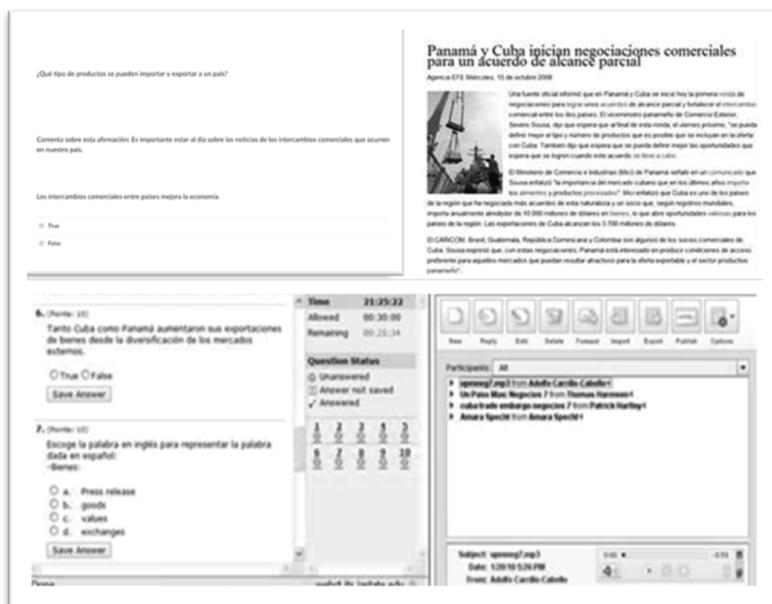


Figure 3
Process of Completing Tasks: 1) “Antes de leer,” Survey; 2) Chapter 7, Business Reading; 3) Online Quiz, “Después de leer”; and 4) Speaking UPM Task UPM through Wimba

METHODOLOGY

Participants

Thirty-seven participants were recruited from two sections (20 in one and 17 in the other section) of a hybrid Intermediate Spanish 202 course. Among the participants, 26 were female and 11 were male. English was their native language. Participants' ages ranged from 18 to 22, and the average age was 20. After being informed of the purpose of the study, participants agreed to participate voluntarily and signed a consent form before data was collected. The Iowa State University Institutional Review Board approved the study.

Data Collection and Analysis

The measurement of participants' L2 achievement, as mentioned in the task design and definition section, was based on the "can do" statements at the intermediate level from the *Common European Framework* (Council of Europe, 2001). The frequency of linguistic units (i.e., vocabulary from one CALL reading in business and engineering) was collected from two spoken tasks (see appendix A) that students completed out of class. The first task focused on business corresponding to Chapter 7 of the textbook; the second focused on engineering corresponding to Chapter 12 of the textbook. These two tasks were selected for two reasons: a) being the first and the last task in the semester which coincided with data collected on their spoken proficiency through the *Versant Spanish Test*, and b) having a larger number of participants completing these two tasks than other tasks. Both instructors rated students' UPM tasks using the rubric in Appendix B. The recordings from UPM tasks were uploaded on *Wimba*, downloaded, and transcribed for analysis, with the analysis focusing on student use of the linguistic units derived from the CALL readings. A research assistant, a native Spanish speaker who was not involved in task design, transcribed the recordings. The words that appeared in the multimedia glosses from the CALL readings and the frequency of the word being used was coded and entered in MS Excel. Frequency was calculated for each word. The author examined the accuracy of the analysis done by the researcher assistant.

Data collection also included the pre- and post-course test scores based on the *Versant Spanish Test*, which evaluated speaking and listening skills. The pre-test was given in the first week and the posttest on the last day of the course. The *Versant Spanish Test* provided scores for overall spoken skill, sentence mastery, vocabulary, fluency, and pronunciation. The *Versant Spanish Test* consisted of the following: reading aloud, listening and repeating, saying the opposite, answering short questions, building sentences from jumbled words, answering open-ended questions, and retelling stories. The scores automatically calculated from the test were entered in IBM SPSS (Statistical Package for the Social Sciences) 21.0. T-tests on the listening and speaking assessments determined whether there were differences between the pre- and post-

assessments—whether students’ overall spoken ability improved over a period of 15 weeks.

RESULTS

The Frequency of Vocabulary and Grammatical Forms in UPM

Twenty students out of 37 completed Task 1 (business focus), and 15 completed Task 2 (engineering focus). Table 2 shows the results of Task 1. This task instructed students to compose their own stories, not requiring them to use specific vocabulary. Therefore, some learners’ speaking samples did not mention the words from the multimedia glosses even once. Based on the scoring rubric (see Appendix B), participants received an average score of 89.3%. In addition, Table 2 showed that students used linguistic units in the CALL reading (bold in Table 2) that were not included in the multimedia glosses. In other words, students were able to connect meaning with some targeted linguistic forms. They were successful using the language in a meaningful way to build their own story.

Table 2
Frequency of Linguistic Units from the Business Reading

<i>Linguistic Units</i>	<i>Frequency of Linguistic Units</i>	<i>N</i>	<i>Mean</i>	<i>Score for completing the UPM</i>
Lograr	7	20	.35	80
Acuerdos	26	20	1.30	95
Intercambio	27	20	1.35	95
Llevar a cabo	15	20	.75	97
Importar	14	20	.70	95
Alimentos	9	20	.45	90
Procesado	9	20	.45	90
Bienes	5	20	.25	93
Valiosas	7	20	.35	90
Promedio	5	20	.25	95
Anual	7	20	.35	95
Comercial	15	20	.75	98
Cubano	9	20	.45	97
Productos	22	20	.45	95
Comida	12	20	1.10	92

Average score of UPM, Task 1 was 89.3%. (N=20)

Table 3 shows the results for Task 2. The words in bold came from the reading, not from the glosses. The task instructed students to compose their stories based on the reading. The fact that students used the words in the reading indicated that they combined meaning and form when communicating their ideas. Seven linguistic units out of 14 multimedia glosses were used by the participants. Some students used the words more than once, which was reflected in the frequency and mean in Table 3.

Table 3
Frequency of Linguistic Units from the Engineering Reading

<i>Linguistic Units</i>	<i>Frequency of Linguistic Units</i>	<i>N</i>	<i>Mean</i>	<i>Score for completing the UPM</i>
Escalada	26	15	1.73	90
Control de	14	15	.93	93
la mente	13	15	.87	97
Conocer los	9	15	.60	96
límites	6	15	.40	98
Fuerza física	6	15	.40	90
Hacer	22	15	1.46	92
hincapié	0	15	.0	90
Caída	4	15	.27	95
Montañas	12	15	.80	93
Arrebatos	17	15	1.13	96
Apurar	7	15	.47	100
fuerzas	6	15	.40	98
Cuerda	11	15	.73	98
Nudos	10	15	.67	90
Nudo: de	0	15	.0	
mariposa	6	15	.40	
Miedo	3	15	.20	
Pies	0	15	.0	
Piernas	0	15	.0	
Escalador	5	15	.33	
Apoyo	2	15	.13	
Punta	0	15	.0	
Salvamento	20	15	1.30	
Rematado	19	15	1.27	
Apretado	8	15	.53	
Aguante	8	15	.53	
Peldaños	16	15	1.06	

The average score for UPM Task 2 was 94.4%. (N = 15)

Student use of glosses indicated that having a variety of modes, such as visual, auditory, and textual may facilitate vocabulary acquisition and retention (Al-Seghayer, 2001). It is noteworthy that “[l]arger vocabularies have been found to have a positive relationship with greater spoken fluency...” (Beglar & Nation, 2014, p.5). Students also used grammatical forms from the textbook.

Versant: A Test of Spoken Skills

Improving language proficiency is a desired outcome in any language course (González-Lloret & Nielson, 2014). To assess listening and speaking, descriptive statistics were used for the pre-and post-course *Versant Spanish Test* scores. In addition, a pair-samples t-test was conducted to compare the means between the pre-and posttests (see Table 4).

Table 4
Means of Pre- and Post-versant Test Scores

		<i>Mean</i>	<i>N</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
<i>Pair 1</i>	<i>Pre-overall</i>	37.51	37	10.03	24	67
	<i>Post-overall</i>	43.16	37	10.46	26	71
<i>Pair 2</i>	<i>Pre-sentence</i>	35.89	37	13.14	20	71
	<i>Mastery</i>					
	<i>Post-sentence</i>	46.35	37	13.12	28	77
<i>Pair 3</i>	<i>Pre-vocab</i>	33.54	37	17.79	20	80
	<i>Post-vocab</i>	40.16	37	19.68	20	80
<i>Pair 4</i>	<i>Pre-fluency</i>	40.16	37	8.13	25	67
	<i>Post-fluency</i>	43.97	37	9.26	24	75
<i>Pair 5</i>	<i>Pre-pronunciation</i>	43.59	37	6.68	33	64
	<i>Post-pronunciation</i>	46.56	37	7.71	34	72

The mean score for the overall spoken skill on the pre-test was 37.51 and on the post-test was 43.16, showing an improvement of 5.65 points after the course. During the course, students learned with various oral tasks: asynchronous tasks based on content-based texts, synchronous online sessions in the virtual world of *Second Life*, and communicative tasks with co-learners during face-to-face sessions. A list of minimum and maximum scores in every category was also provided in Table 4.

The Pearson correlation coefficient determined the relationship between the pre- and post-course test scores. There was a significant correlation between the two variables ($r=.870$, $N=37$, $p=.000$). The correlation coefficient for pre- and post-sentence mastery scores showed a significant correlation ($r=.858$, $N=37$, $p=.000$). The same was true for pre- and post-vocabulary scores ($r=.540$, $N=37$, $p=.001$), pre- and post-fluency scores ($r=.609$, $N=37$, $p=.000$), and pre- and post-pronunciation scores ($r=.647$, $N=37$, $p=.000$).

The two-tailed probability for the overall and the four subcategories scores in the *Versant Spanish Test* was low ($p=.000$; $p=.001$; $p=.032$; $p=.005$, and $p=.005$), indicating that there are .00%, .01%, .32%, .05%, and 0.5% possibilities that the values of the t could happen by chance alone. All the pre- and posttest scores were statistically significant ($p < .05$), with the course effect on fluency and pronunciation (-3.810 and -2.972, respectively) smaller than that on sentence mastery and vocabulary (-8.411 and -6.621) (See Table 5).

Table 5
t-test Results for Pre- and Post-Versant Test Scores

	Mean	SD	t	df	Sig. (2-tailed)
<i>Pre-overall</i>	-5.64865	5.25048	-6.544	36	0.000
<i>Post-overall</i>					
<i>Pre-sentence</i>	-8.41176	8.19343	-4.233	36	0.001
<i>Post-sentence</i>					
<i>Pre-vocab</i>	-6.62162	18.05139	-2.231	36	0.032
<i>Post-vocab</i>					
<i>Pre-fluency</i>	-3.81081	7.75972	-2.987	36	0.005
<i>Post-fluency</i>					
<i>Pre-pronunciation</i>	-2.97297	6.12139	-2.954	36	0.005
<i>Post-pronunciation</i>					

DISCUSSION

The following two research questions guided the Spanish hybrid intermediate course:

- 1) What types of language and content features from the CALL readings did the learners acquire?
- 2) Within the hybrid environment, what was the L2 learners' overall Spanish skill as measured by the *Versant Spanish Test*?

The first question was important because the course content came from authentic materials, which were supplemented with tasks to suit intermediate learners. The CALL materials were developed following three SLA hypotheses suggested by Chapelle (1998): (a) salient input; (b) assistance comprehending input; and (c) opportunities to produce output in the target language. The test scores showed that some words from the multimedia glosses and from the readings were produced by learners, indicating that they used their second language knowledge to produce output in speaking. The frequencies and means of the target forms reported in Tables 2 and 3 evidenced language use that may lead to language acquisition.

Test results showed that learners' overall spoken skill and all four subcategories (vocabulary, sentence mastery, fluency, and pronunciation) improved at the end of the course. The improvement was illustrated by the pre- and post-test scores. Students scored between 20 and 80, with a score range of 60. The mean overall score increased 5.648 points, meaning an improvement of 9.4% on the test. The results were aligned with González-Lloret and Nielson's research (2014), in which improved results in spoken skills demonstrated the effectiveness of a TBLT program. Although our course was a combination of technology-mediated TBLT and traditional approach, the learning outcome implied the effectiveness of the technology-mediated TBLT approach for language learning.

In this case study, the course adopted technology-mediated TBLT in a hybrid learning environment by providing tasks focusing on four features—meaning, goal orientation, holism, and learner-centeredness. Moreover, the technological affordances were considered when pedagogic tasks were designed. The course had an effect on students' sentence mastery, vocabulary, overall oral skill, fluency, and pronunciation (in order of largest to smallest). In terms of the lesser effect on pronunciation, it was possible that some did not use the pronunciation aid built in the multimedia glosses. Although the CALL readings had the multimedia glosses to develop language skills, they might have only used the other aids (i.e., synonyms, translations, and visual representations) because they needed them to complete the online "Después de leer" quiz (see Figures 2 and 3). It may be that some learners were so focused on meaning and form that they neglected pronunciation. Furthermore, recording their speech on *Wimba* as part of a UPM task was a self-learning process. Whereas instructors provided oral and written feedback, it was not known if they used the feedback to develop speaking skills. This might have been corrected if students had been encouraged to engage in *reflective learning* as suggested by González-Lloret and Ortega (2014).

Learners were exposed to real language through authentic texts and tasks (e.g., interaction with native Spanish speakers and the instructor of the course, feedback from the instructor...). The outcome showed that a task-based approach in the hybrid environment could be effective when content and language were integrated. The course was organized following a weekly pattern of tasks (i.e., the use of *Second Life* during online sessions and the completion of writing and spoken tasks based on content-based texts). The fact that students did them repeatedly may have helped learning and acquisition. According to Cook (1993), for acquisition to take place, learners must take in the appropriate parts of the input. Content-based materials provided input via auditory and visual channels (multimedia glosses) and to foster language production by means of meaning-focused tasks. In fact, the benefits of reading CALL business and engineering texts were not limited to the task-cycle stages. "Language focus involves thinking about language in the context of a meaning-focused activity" (Willis & Willis, 2007, p.116). The oral UPM tasks raised learners' awareness of specific lexical items and grammatical structures in the planning stage (i.e., the time spent on preparing the oral report). As a result, they successfully completed the oral UPM

tasks by creating their own stories, combining the content and the linguistic forms from the CALL readings. Additionally, language output informed the teachers that they completed the role-play tasks successfully by focusing on the meaning and forms of language. A task-based approach (Nunan, 2004; Norris, 2009; Willis & Willis, 2007) allowed learners to use and acquire language. As Willis and Willis (2007) pointed out, TBLT is a successful approach to SLA because learners are exposed to real language—they use the language to solve a problem.

CONCLUSIONS

This study has limitations in its research design. First, it had a small number of participants; consequently, the results are not generalizable. Second, it did not include a control group (i.e., a face-to-face course without task-based oral assessments). As a result, we cannot attribute the oral proficiency improvement solely to the hybrid course design, as face-to-face contact hours with instructors and classmates, online sections in the virtual world, and online conversations with a native speaker might have contributed to student language gains, which were demonstrated by their pre- and post- versant Spanish Test scores. Moreover, it did not include qualitative data from students' perceptions about the task-based oral assessments, which has limited the interpretation of the results. Further research examining student perceptions through qualitative data may provide valuable information on the usefulness of the oral tasks.

Evaluation of this technology-mediated TBLT course delivered in a hybrid environment is valuable for us to reflect on and improve teaching practices. For example, tasks may be enhanced by adding a reflective learning step as suggested by González-Lloret and Ortega (2014). After finishing speaking tasks, students could reflect on language use.

NOTES

1. *Second Life* is a popular online 3-D virtual game often used as an immersive teaching environment, featuring real-time engagement and collaboration through voice and text. For more information on how *Second Life* is used in educational settings, see <http://go.secondlife.com/landing/education/>
2. *Versant Spanish Test* is an automated oral language assessment that can be completed in 15 minutes on the Internet or over the telephone. It correlates highly with the American Council on the Teaching of Foreign Languages (ACTFL) Oral Proficiency Interview (OPI) with a correlation of 0.88. For more information, see <http://www.versanttest.com/technology/VersantSpanishTestValidation.pdf>

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APPENDIX A

Illustrative Example of CALL Readings: Instructions for Speaking Tasks and Description of Task Types

Title of CALL reading for Chapter 7 and business topic: “*Panamá y Cuba inician negociaciones comerciales para un acuerdo de alcance parcial*” [*Panama and Cuba begin commercial trades for an agreement with a partial scope*]

Instructions: In your job as a reporter you just heard the news about the commercial exchanges between the U.S. and Cuba. Leave a message announcing the news you heard. In your message mention the type of commercial exchanges that these two countries will have. You will also talk about how this news has affected the Americans and the Cubans, presenting the reasons of those who support and oppose the trades. Read the section of Chapter 7, “*Panamá y Cuba...*,” again and use it as a model to compose your own story. Think about the content of the “after reading” quiz to revise the content.

Description: In order to perform the task, students needed to comprehend vocabulary related to negotiation and present and present perfect tenses, which were provided in the CALL reading. The skills involved for the task of reporting news included reading, listening, and speaking. The learning outcome for delivering a public announcement was based on the following “can do” statement: Can deliver short, rehearsed announcements about a topic relevant to everyday occurrences in his/her field which, despite foreign stress and intonation, are nevertheless clearly intelligible.

Title of CALL reading for Chapter 7 and engineering topic: “*Alforjas artesanales para bicicleta*” [*Handcrafted saddlebags for a bicycle*]

Instructions: Your boss has sent you on a business trip to Guatemala to demonstrate to an engineering company how to manufacture an artifact using various materials. Leave a message describing a specific artifact, explain the type of materials you need to use, and the reason for using those specific materials. Summarize your message with a wrap-up of all points (e.g., advantages of the artifact) you have introduced. Read Chapter 7 reading “*Alforjas artesanales...*,” and use it as a model to build your own story. Think about the “after reading” quiz to revise the content.

Description: In order to perform the task, students needed to comprehend vocabulary about materials to build handcrafted objects and present perfect tenses, which were provided in the CALL reading. The skills involved for the task of describing and explaining an artifact included reading, listening and speaking. The learning outcome for addressing the audience was based on the following “can do” statement: Can give a prepared straightforward presentation about a

familiar topic within his/her field which is clear enough to be followed without difficulty most of the time, and in which the main points are explained with reasonable precision.

Title of CALL reading for Chapter 12 and business topic: “*Sequía en Suramérica: La peor sequía en décadas crea pérdidas millonarias e incendios en Suramérica*” [Drought in South America: The worst drought for decades causes fires in South America and major losses amounting to millions]

Instructions: Paraguay suffered from forest fires in the summer. Four-hundred firemen could not stop the fires, and the department of Canindeyú had asked for volunteers with experience to stop the fire. You were involved in helping Paraguay because you had experience as a fireman. For this assignment, leave a message about your experience in extinguishing fires. Provide five explanations for what you could have done if you had been a fireman with more experience. Include any details that can be useful for future firemen. Read “*Sequía en Suramérica...*” in Chapter 12 and use it as the model for your own story. Think about the “after reading” quiz to revise the content.

Description: In order to perform the task, students needed to comprehend vocabulary about fires, geography, and climate, which was provided in the CALL reading. They also needed to produce past, past perfect, and perfect conditional tenses, and obligation verbs which were provided in the textbook. The skills involved in the task included reading, listening, and speaking. The learning outcome for describing experiences was based on the following “can do” statements:

- Can reasonably fluently relate a straightforward narrative or description as a linear sequence of points.
- Can relate details of unpredictable occurrences; e.g., an accident.
- Can describe events real or imagined.

Title of CALL reading for Chapter 12 and engineering topic: “*Nudos para escalada*” [Climbing knots]

Instructions: You are a mountaineering instructor and are preparing your advanced students to climb the Alps. Your students will climb the Alps on Saturday, but you won’t because of an emergency. The following Monday your students will tell you about their unsuccessful experience. Leave a message with five explanations of the steps you would have taken for five or more problems that your students may encounter in their climbing experience. Read “*Nudos para escalada*” in Chapter 12 and use it as the model for your story. Think about the “after reading” quiz to revise the content.

Description: In order to perform the task, students needed to comprehend vocabulary about mountain climbing provided in the CALL reading. They also

needed to produce the perfect conditional and obligation verbs provided in the textbook. The skills involved in the task included reading, listening, and speaking. The learning outcome for describing experiences was based on the following “can do” statements:

- Can reasonably fluently relate a straightforward narrative or description in a linear sequence.
- Can narrate a story.

APPENDIX B

Rubric for Spoken UPM Tasks

Student responds to the learning outcomes and content of the task	
Information is interesting, complete, and relevant to the task.	20-16
Information is complete and relevant to the task, but not interesting.	15-11
Information is adequate and related to the task, but needs details.	10-6
Minimal information related to the task	5-1
Information provided is not relevant to the task.	0
Student demonstrates Spanish language fluency.	
Information is completely comprehensible.	20-16
Information is mostly comprehensible and sometimes slow.	15-11
Information is incomprehensible with frequent errors and pauses.	10-6
Information is incomprehensible with long pauses.	5-1
Student demonstrates Spanish language vocabulary.	
Vocabulary is completely appropriate and relevant to the task.	20-16
Vocabulary is somehow appropriate and related to the task.	15-11
Vocabulary is adequate and related to the task.	10-6
Vocabulary is inappropriate for the task.	5-1
Student demonstrates Spanish language pronunciation.	
Generally good, accurate stress and intonation	20-16
Rather good but with some striking non-Spanish sounds	15-11
Frequent errors pronouncing English vowels and consonants	10-6
Generally poor, use of non-Spanish vowels and consonants, incorrect stress	5-1
Student demonstrates Spanish language accuracy.	

Grammar is completely appropriate for the situation with no errors.	20-16
Grammar is adequate for the situation with minor patterns of errors.	15-11
Grammar is related to the situation with some patterns of errors.	10-6
Grammar is inappropriate for the situation or there are significant errors	5-1

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REVIEWS

***Teacher Education in Computer-Assisted Language Learning: A Sociocultural and Linguistic Perspective.* By Euline Cutrim Schmid (2017). New York, NY: Bloomsbury Academic. Pp. 201.**

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Teachers, teacher educators, and administrators can appreciate the challenges facing the adoption of new educational technology. Indeed, we are all aware that the indiscriminate transfer of methods used in the face-to-face classroom to computer-assisted language learning (CALL) and teaching does not work. From divergent pedagogical beliefs about technology's role, to varied technical skill levels among teaching faculty, individual factors heavily influence technology adoption. *Teacher Education in Computer-Assisted Language Learning: A Sociocultural and Linguistic Perspective* presents the findings of a longitudinal research project by teacher trainer, researcher, and author Euline Cutrim Schmid. Through the development and research of the Teacher Education in CALL (TECALL) framework, she offers an in-depth analysis of sociocultural approaches to CALL teacher education at the intersection of second language teacher cognition and the integration of CALL technologies. The TECALL program takes eighteen months and consists of ten professional development workshops, a collaborative project with pre-service teachers, video-stimulated reflection, and individual consultations with an academic expert. The book describes the program in eight chapters, divided into three parts: Part One (Chapters 1-3) is a CALL literature review and outline of the theoretical framework; Part Two (Chapters 4-7) covers the TECALL professional development program's research findings; and Part Three (Chapter 8) explores research implications.

The book begins with a synthesis of sociocultural research in CALL pre- and in-service teacher education, inclusive of the key influential approaches (e.g., experiential modeling, collaborative peer-assisted learning, etc.). The author frames her inquiry of TECALL through cognition research, an approach that connects beliefs to practice and has its roots in the personal experiences of, and

emotional responses to, individual contexts. Readers curious about the evolution of teacher education in CALL through a sociocultural lens will find a clear and compelling presentation of the literature.

Cutrim Schmid frames her research around seven experienced teachers' adoption of interactive white boards. She focuses on interactive white boards for two reasons. First, they are relatively new in the language classroom domain with limited research on communicative-based approaches. Second, integration requires mastery of additional technology-based resources. The book will find a broad audience of practitioners with first-hand experience who can relate to the developmental stages involved in mastering this instructional tool.

Part Two, covering Chapters 4 through 7, transitions the reader into the research findings by exploring the participating teachers' cognitive processes as they integrate interactive white boards, but not before delving into the literature for each component of the TECALL program. At times, this seemed redundant given the literature review in Part One. Regardless, this section should be of greatest interest to the practitioner. Each chapter concludes with reflective questions and suggestions for professional development activities to help teachers draw on personal experiences and to promote reflection on the differences between traditional and technology-enhance teaching environments. These activities are suitable for independent or guided reflective practice with pre- or in-service teachers.

In Chapter 4, Cutrim Schmid explores her role as a teacher educator in supporting teachers' professional development through a dialogic process of strategic mediation using video-stimulated reflection (VSR). VSR aims to increase awareness of current practice by pairing a guided reflection activity with videos of the individual's teaching. In one example, a participating teacher acknowledges that she uses a predominately teacher-centered approach with the white boards and shifts to include more learner-centered and communicative tasks. Cutrim Schmid designs the VSR professional development activity as an iterative process because, as she explains, "teacher educators are in a better position to provide strategic mediation when teachers are given multiple opportunities to externalize their emerging understandings of new concepts in the context of actual teaching" (p. 69). It seems intuitive that teachers need multiple opportunities to engage with a new technology, but Cutrim Schmid reinforces this idea by pairing the extended learning experience with expert guidance, or mediation, from the teacher educator. VSR is further explored in Chapter 6 as a tool to foster teachers' autonomy through self-reflection.

Another key component to the TECALL program involves an extended collaboration between pre- and in-service teachers to develop effective lessons using the new technology. The program includes this activity based on the premise that the pre-service teachers have existing technical skills and current theoretical knowledge that can be complimented by the in-service teachers' craft knowledge gained from their teaching experience. The practice of expert/novice teacher collaboration is incorporated into the TECALL framework. Chapter 5 concludes with an outline of best-practices to implement a collaborative project between

teachers to promote learning – an outline worthy of a close-read for those involved with practicums or co-teaching.

Chapter 7 addresses the final component of the TECALL program, which consists of a series of ten workshops throughout the lifecycle of the project whereby the participants learn about the technical and pedagogical aspects of the interactive white board within the language teaching domain. Cutrim Schmid analyzes the peer-to-peer interactions during the workshop sessions and provides evidence that these interactions promote learning through dialogic scaffolding. The book includes a descriptive overview of the professional development workshop series along with specific design features to support peer collaboration. Teacher educators delivering professional development workshops targeting interactive white boards or similar technology tools will find this section practical.

Part Three summarizes the main research findings and outlines implications for future TECALL initiatives. Cutrim Schmid concludes with five key principles to inform the design, implementation, and evaluation of CALL professional development programs, to include the following: 1) a sound theoretical base for teaching practice; 2) the embedding of professional development within the teachers' classroom contexts; 3) the inclusion of reflective practice; 4) opportunities for peer collaboration; and 5) ongoing professional development support. The framework underscores the critical role of reflection in reducing the gap between beliefs and practice.

The thoughtful adoption of models to local contexts requires thought. At several points in the book, I was left thinking about the extensive resources invested in supporting the participating teachers' development for this one teaching tool: multiple recordings of classroom instruction for VSR, the professional development workshops, the pre-service teacher practicum, and the tailored consulting. The author freely acknowledges the challenges to ongoing CALL professional development outside of a structured context (in this case a research project) and identifies the need to investigate strategies that promote sustainable TECALL programs, perhaps through peer collaboration. By the end of the book, the reader is fully cognizant of the shortcomings of one-off CALL professional development workshops. Successful TECALL programs allow expert educators to provide continuous support because teachers pursue unique developmental paths when adopting CALL pedagogical practices according to their context, beliefs, prior knowledge, and experience. The strength of *Teacher Education in Computer-Assisted Language Learning: A Sociocultural and Linguistic Perspective* is the presentation of the model, its theoretical underpinnings, and the findings, all in clear detail. Practitioners can select any of the approaches to explore further with consideration to their local constraints – a takeaway that nicely mirrors the core research findings in support of situated learning.

Talk About Teaching! Leading Professional Conversations (2nd Ed). By Charlotte Danielson (2016).
Thousand Oaks, CA: Corwin. Pp. 139.

Reviewed by JIAYING HOWARD
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The quality of teaching is an important contributor to student learning. Parallel to improving learning is the imperative to strengthen teaching practice. *Talk About Teaching! Leading Professional Conversations* is about using professional conversations to improve teaching and enhance teacher learning. The author, Charlotte Danielson, is an expert in teacher effectiveness, specializing in teacher evaluation systems. She is a policy consultant to state and national legislatures and administrative bodies of education. The targeted audience of the book is school leaders, including “site administrators, department chairs, team leaders, curriculum coordinators, instructional coaches, or informal teacher leaders” (p. x). The book has eight chapters, a list of references and suggested readings, and an index of content.

Chapter 1, *Why Professional Conversation*, establishes the conceptual framework. In many schools, conversations about teaching are part of teacher evaluation, between a school leader and a teacher. Danielson points out that professional conversations would be more effective if they were part of teacher learning. “[T]eachers, like other professionals, must be engaged in a career-long quest to enhance their knowledge and skill... Professional learning is not an add-on to the daunting responsibilities of teaching; it is *integral* to those responsibilities” (p.3). Currently, the typical format of teacher learning is through workshops and presentations in which teachers play a passive role—sit and get. For real learning to take place, teachers must engage in an active intellectual process. Reflective conversation about teaching is a powerful tool in professional learning. When teachers receive feedback from colleagues and administrators, particularly when it is timely and specific, with clear standards, they reflect and assess their practice, which helps to bridge the gap between their current and desired performance.

Chapter 2 examines the conditions for professional conversations to take place. A most important condition is leadership. The author stresses that power is not the same as leadership. Teachers may feel anxious when discussing teaching with a school leader who has greater administrative power. Leaders should realize that teachers, “no less than administrators, are professionals” (p. 13). To lead, a school leader does not need to have all the individual skills of teachers, but must have a vision, integrity, and the ability to rally the teachers. As teachers’ expertise and morale have a direct, effective impact on student learning, it is essential that administrators exercise power in a responsible manner—

involving teachers through conversations in making decisions about curriculum, teaching, and evaluation. Danielson offers advice to school leaders about establishing an atmosphere of trust among teachers and between teachers and administrators; reconciling power and collegial leadership; creating a vision (*the Big Ideas*) —“what the school can accomplish and why it is important to do so” (p.21); clarifying purpose—help teachers recognize their role in the vision; establishing a culture of professional inquiry among faculty to sustain a learning organization; exercising power responsibly to promote good teaching; and serving as coach.

Chapters 3 and 4 discuss the content of professional conversations. Chapter 3 explains that *the Big Ideas* include 1) the content of learning—knowledge and skills that students need to become responsible and productive citizens; 2) the nature of learning—students learn because of what they do, not because of what teachers do—thus the focus should be on students; 3) student motivation; and 4) intelligence—education enables students to become smart through application of knowledge and hard work. *Student learning* is the essence of *the Big Ideas* that shape professional conversations. Chapter 4 outlines the topics for conversations. The topics comprise six clusters: 1) Clarity of instructional purpose and accuracy of content; 2) A safe, respectful, supportive and challenging learning environment; 3) Classroom management; 4) Student intellectual engagement; 5) Successful learning by all students; and 6) Professionalism (p. 47). For each cluster, sub-topics are provided. For example, under student intellectual engagement, Danielson suggests designing, selecting, and managing learning tasks; skillfully using student discourse—responding to and building on student responses and ideas, engaging students in formulating hypotheses, making connections, challenging previously held views; and guiding by means of precise language to deepen and extend understanding and forming argumentation to enhance logical reasoning and critical thinking.

Chapters 5, 6, and 7 discuss the skills, the settings, and various factors that influence professional conversations. Chapter 5 focuses on conversation skills. Suggestions are provided for setting the conversation tone, creating a respectful and safe environment for teachers, and using various linguistic skills (rapport, positive presuppositions, inviting and sustaining thinking, probing, paraphrasing, etc.). Chapter 6 investigates the setting of professional conversations, with a focus on informal conversations in which teachers are more likely to be engaged in in-depth self-reflection and self-assessment of teaching practice. Without a formal protocol or power influence (non-evaluative), informal conversations are purely professional. Danielson avers, “Skill in conducting informal professional conversations is at the heart of educational leadership” (p. 87). Informal conversations occur in a culture of professional inquiry, a culture that school leaders must take the lead in cultivating. Chapter 7 examines implementation issues, among which are finding time for conversations, establishing trust between conversation partners, and reaching consensus on *the Big Ideas*. Leaders may overcome the implementation challenges through

administrative decisions, adjustment of leader behavior, trust, and commitment to professional learning

Chapter 8, *Conversation Activities for Implementation*, offers practice for administrators to lead professional conversations, including advice and tools for shaping the purpose, process, and outcome of conversations. Practice activities are built around topics that allow teachers to develop shared understanding by talking among themselves. Sample topics include contributing to student learning; leadership's role in promoting good teaching; creating and enhancing a trusting environment; reflecting on one's learning; summarizing observations from personal experiences; and motivating students. For each topic, the author gives suggestions on the frame question, comment on the question, grouping pattern, tools or prompts, possible teacher responses, and desired outcomes of conversations.

Talk About Teaching! urges school leaders to view support of teacher learning as central to instructional leadership. One approach to promote teacher learning is talking with teachers about teaching. The book offers specific advice to leaders for combining expertise, vision, administrative power, and collaboration and facilitation skills to conduct collegial and productive professional conversation. Although the primary audience is school leaders, teachers and other professionals may also benefit from the book if they become more aware of the various components that influence the outcome of a professional conversation. The book is straightforward and clear, so much so that some parts read like a user menu. The variables in a professional conversation make it impractical to simply follow instructions. Had the author used more examples (e.g., school administrators' field experiences) to illustrate the complexity and importance of professional conversations, the instructional tone may have been minimized. Examples may have added color and depth to the ideas, bringing in various and interesting voices that stimulate intellectual development. That having been said, the book demonstrates that small steps taken by school leaders may make a big difference in teacher learning, which is a significant contributor to student learning.

GENERAL INFORMATION

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2019 EVENTS

JANUARY

- January 3-6* *Modern Language Association (MLA) Convention, Chicago, IL*
Information: www.mla.org/convention
- January 3-6* *American Association of Teachers of German (AATG) Session, Chicago, IL*
Information: www.aatg.org
- January 3-7* *Linguistic Society of American (LSA) Annual Meeting, New York, NY*
Information: www.linguisticsociety.org

FEBRUARY

- February 7-10* *American Association of Teachers of Slavic and East European Languages (AATSEEL), New Orleans, LA*
Information: www.aatseel.org
- February 28-March 3* *California Language Teachers' Association (CLTA) annual conference, San Jose, CA*
Information: cita.net

MARCH

- March 9-12* *American Association for Applied Linguistics (AAAL), Atlanta, GA*
Information: www.aal.org
- March 12-15* *Teachers of English to Speakers of Other Languages (TESOL) International Convention, Atlanta, GA*
Information: www.tesol.org
- March 21-23* *Southern Conference on Language Teaching (SCOLT) Annual Conference, Myrtle Beach, SC*
Information: www.scolt.org

MAY

- May 26-31* *NAFSA: Association of International Educators Annual Conference and Expo, Washington, DC*
Information: www.nafsa.org

NOVEMBER

November 14-17 Middle East Studies Association (MESA) Annual Meeting, Atlanta, GA

Information: mesana.org/annual-meeting/upcoming.html

November 22-24 American Council on the Teaching of Foreign Languages Annual Convention (ACTFL), Washington, DC

Information: www.actfl.org

November 22-24 American Association of Teachers of Japanese (AATJ) Fall Conference, New Orleans, LA

Information: www.aatj.org

November 22-24 Chinese Language Teachers Association (CLTA) Annual Conference, Washington, DC

Information: clta-us.org

INFORMATION FOR CONTRIBUTORS

Submission Information for Authors

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Applied Language Learning (ALL) is to promote professional communication within the Defense Language Program and academic communities on adult language learning for functional purposes.

The Editor encourages the submission of research and review manuscripts from such disciplines as: (1) instructional methods and techniques; (2) curriculum and materials development; (3) testing and evaluation; (4) implications and applications of research from related fields in linguistics, education, communication, psychology, and social sciences; and (5) assessment of needs within the profession.

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- Use double spacing, with margins of one inch on all four sides
- Use Times New Roman font size 12
- Number all pages consecutively
- In black and white only, including graphics and tables
- Create graphics and tables in a Microsoft Office application (such as Word, PowerPoint, Excel)
- Graphics and tables should not exceed 4.5” in width
- Do not use the footnotes and endnotes function in MS Word. Insert a number formatted in superscript following a punctuation mark. Type notes on a separate page
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Applied Language Learning publishes only original works that have not been previously published elsewhere and that are not under consideration by other publications.

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