
Examining the Effectiveness of Corpus-Informed Instruction of Reporting Verbs in L2 First-Year College Writing

JI-YOUNG SHIN

Purdue University
E-mail: jyshin@purdue.edu

ASHLEY J. VELÁZQUEZ

Purdue University
E-mail: velazga@purdue.edu

ALEKSANDRA SWATEK

Purdue University
E-mail: aswatek@purdue.edu

SHELLEY STAPLES

University of Arizona
E-mail: slstaples@email.arizona.edu

R. SCOTT PARTRIDGE

University of Delaware
E-mail: rspartri@udel.edu

Previous research has shown that developing second language (L2) academic writers use a limited set of reporting verbs in comparison to more advanced writers (Biber & Reppen, 1998; Hinkel, 2003; Kwon, Staples, & Partridge, 2018; Neff et al., 2003; Staples & Reppen, 2016). These writers also tend to rely on verbs that are typical for conversation (Biber et al., 1999). The present study examines the effects of corpus-informed instruction on developing L2 writers' learning of reporting verbs in a first-year writing course by comparing drafts of literature reviews before and after a workshop. The forty-five-minute workshop was designed to improve L2 writers' lexical and functional uses of reporting verbs using corpus-informed materials. The researchers compared the literature review drafts written by 40 students who participated in the workshop to 38 randomly chosen drafts from our corpus. The results show an increase in the experimental groups' reporting verb lexical variety and a decrease in the use of verb types used in speech in favor of types used in academic writing. The results suggest that corpus-informed instruction may support L2 writers in the development of lexical and functional reporting verb use.

INTRODUCTION

Research has demonstrated that developing second language (L2) academic writers of English may have difficulties with source text use, both in terms of the formal elements of attribution and the functional meanings associated with attribution (e.g., expressing stance in relation to a given textual source) (Biber & Reppen, 1998; Hinkel, 2003; Kwon, Staples, & Partridge, 2018; Neff et al., 2003; Staples & Reppen, 2016). One crucial step in developing appropriate source text use is understanding how to use reporting verbs (e.g., *argue, show, think, talk about*) in context. However, despite the importance of reporting verbs in attributing information to sources, research investigating the verb choices made by L2 writers who are still developing skills in academic writing (henceforth L2 developing writers) is still limited. To address this gap in the research we designed a study in which we examined the effects of a 45-minute workshop using materials developed from a learner corpus formed from texts from a first-year writing course designed specifically for international students. We focused on L2 writers' semantic variety and functional uses of reporting verbs in a literature review assignment since literature reviews are a unique sub-genre of academic writing where the appropriate use of reporting verbs, both on the micro level (e.g., lexico-grammatical knowledge) and macro-level (e.g., genre-specific contextual features such as aims and audience), plays an important role (Flowerdew & Forest, 2009; Swales & Lindemann, 2002). We used the Corpus and Repository of Writing (Crow; <http://writecrow.org>) to inform the workshop and to provide us with essays from the three intervention groups and the three control groups that formed the basis of our research design. Crow is a learner corpus, or an electronic collection of authentic language of learner texts, which we built with our colleagues. Using a learner corpus such as Crow for research and pedagogical purposes provides students, instructors, and researchers with access to contextualized uses of language (Granger, 2002). The workshop took place in the same first-year writing course for L2 writers from which the corpus was collected. The purpose of this workshop was to discuss with students the semantic and functional uses of reporting verbs by using authentic representations (i.e., corpus-informed materials) of the linguistic functions of reporting verbs; we hoped to see students demonstrate their new knowledge in their revision of their literature review assignment.

REPORTING VERBS IN ACADEMIC WRITING

Teaching L2 developing writers appropriate use of reporting verbs is a central component of first-year writing courses because reporting verbs perform a fundamental role in evidence-based academic writing. The use of reporting verbs (e.g., *argue, show, find, think*) allows writers to attribute information to external sources while also conveying their perspective on and evaluation of the source(s) used in their texts (Friginal, 2013; Pecorari, 2008; Swales, 2014; Thompson & Ye, 1991). However, because reporting verbs are complex, both in terms of their semantic and functional nuances, L2 developing writers often demonstrate difficulty with citation practices. Instructors are thus challenged with the task of helping L2 developing writers unpack and understand the various nuances of reporting verbs. For instance, reporting verbs are not limited to direct attribution to an outside source text, or the reporting (R) function; reporting verbs may also function as a self-reference (S) (e.g., I *will talk about how these sources are helpful*), or even as an uncited generalization (UG) (e.g., *Many people believe ice cream is the best*). For L2 developing writers, being able to distinguish between these functional uses is important when learning what is and is not acceptable, or expected, in academic writing

contexts.

In addition to the functional uses, reporting verbs can be classified into four semantic categories: *Argue*, *Find*, *Show*, and *Think* (Francis, Hunston, & Manning, 1996). Housed in each semantic category are a variety of reporting verbs from which students can choose. Largely due to their nuances and semantic subtleties, it is just as difficult for teachers to teach reporting verbs as it is for developing writers to learn to use them appropriately (Bloch, 2010). Take for example verbs from the *Argue* category, which are used for introducing information and suggesting some type of stance towards the information, including choices such as *suggest*, *assert*, *note*, *predict*, *write*, and *explain*. Each of these verbs has a slightly different semantic meaning, allowing for writers to express different attitudes towards and evaluation of source texts. These slight, important semantic changes from word to word highlight the interconnectedness of source attribution and argumentation. Studies have demonstrated, however, that despite the array of choices available to writers, L2 developing writers use a more limited set of verbs compared to more advanced writers (Biber & Reppen, 1998; Hinkel, 2003; Neff et al., 2003; Staples & Reppen, 2016). Not only do L2 developing writers rely on fewer verbs, but they also tend to use verbs that are most frequently used in conversation (e.g., *talk about*, *say*, *know*, *think*) (Biber et al., 1999). Our own recent research reveals that this tendency is also true of the L2 population participating in our study (Kwon, Staples, & Partridge, 2018).

CORPUS-INFORMED INSTRUCTION

Similar to data-driven learning (see Johns, 1991), corpus-informed instruction contextualizes corpus data in order to heighten learners' language awareness in the writing classroom, particularly on academic register and genre. Register and genre offer distinct perspectives on writing—registers refer to frequently occurring lexico-grammatical features in a variety of writing, while genres include conventional rhetorical organization and formatting (Biber & Conrad, 2009). As students are continuously exposed to language occurring in authentic contexts with varying registers and genres, they learn how to contextually and rhetorically make appropriate verb choices when engaged in academic writing (Cotos, 2014). Part of this exposure can take place using what Bloch (2009) calls “concordancing technology,” or concordance lines and excerpts from a corpus that highlight words and phrases being targeted in instruction. As students and instructors engage with corpus-informed pedagogical materials, developing writers may begin to unpack the salient and complex characteristics of linguistic features such as reporting verbs. In line with this research, Kwon, Staples, and Partridge (2018) called for pedagogical attention to reporting verb instruction for student writers in our current corpus. Thus, we created pedagogical materials for our workshop from our learner corpus. With the use of corpus-informed activities and guided discussion, we investigate the effectiveness of corpus-informed pedagogical materials on building L2 developing writers' lexical variety of reporting verbs and informing their functional choices of reporting verbs. Specifically, we ask two questions:

1. Does corpus-informed instruction increase the variety of reporting verbs that first-year L2 writers use within semantic categories (verb types)?
2. Does corpus-informed instruction improve their functional uses of reporting verbs?

To begin answering these questions, we will first describe the data collection process, give

a detailed description of the workshop structure (example materials are provided in Appendix 1 and 2), review our data analysis framework, and, finally, provide quantitative and qualitative analyses of student texts. Based on our findings, we will indicate future areas of research and provide implications for classroom teachers.

METHOD

Data Collection

The current study compared L2 students' use of reporting verbs in their writing before and after corpus-informed instruction. We collected data from six international sections of a first-year undergraduate writing course which is tailored to the needs of international students who have TOEFL writing scores of 26 or below; The individual sections of the course share the same core curriculum and complete the same writing assignments. As the experimental group, three volunteering sections of the course ($n = 40$) participated in a forty-five-minute corpus-informed workshop during the spring of 2016. To form a control group ($n = 38$), we randomly selected texts from three other international sections from the same semester as the experimental group. The corpus, Crow, includes five different genres of writing assignments (6,967,066 words and 7,368 texts, to date) collected from various sections of first-year writing for L2 writers from the same institution since the fall of 2014. Among the five assignments, we chose the literature review assignment for our study due to the genre-specific requirement of using reporting verbs for source attribution. This assignment requires students to write three drafts but only the first and the second drafts were used for the study. As shown in Table 1, the average number of words per text was not considerably varied between the two groups. The data were collected from both the experimental and the control group but only the experimental group participated in a reporting verb workshop. Instructional materials for the control group were not collected or analyzed; it is our understanding that students in the control group did not receive explicit instruction on the use of reporting verbs. However, both the experimental group and the control group did write multiple drafts of the same genres. The details of the workshop are discussed in the next section.

Table 1
Word Count of Texts Used in the Study

	First Draft		Second Draft	
	Total	Average Per Text	Total	Average Per Text
Experimental Group ($N = 40$)	37,456	936	40,717	1,044
Control Group ($N = 38$)	31,140	890	38,868	1,023

Workshop Design

At the beginning of the semester in spring 2016, instructors of L2 first-year writing were invited by email to participate in our study. Three instructors responded and volunteered to host our workshop during a class period in which students were preparing to write their second draft of a literature review assignment. Led by one of the authors, the workshop consisted of the following: (1) an interactive presentation on the semantic categories (i.e., *Argue*, *Show*, *Find*, and *Think*) of reporting verbs and their function (i.e., reporting, self-reference, and uncited generalization); (2) a discussion in which students used workshop materials to identify reporting verbs; and (3) revision activities in which students used the handouts provided to analyze the reporting verbs in their own writing and make revisions as needed/wanted based on their new knowledge from our workshop. In addition to this, the workshop introduced students to the notion of formality in terms of registers, specifically thinking about the differences between oral conventions and written conventions in an academic writing context. For instance, students noted the difference between *talk about* and *discuss* and in which cases the verbs might be more or less appropriate. At least two additional researchers were present to facilitate these activities during all three workshop sessions.

Materials for the workshop (see Appendix 1 and 2) were generated from earlier semesters of the same course represented in the learner corpus described above. Using these materials from our learner corpus, students analyzed the use of various verbs for different purposes, such as reporting (R) (e.g., **The author argued** that a majority of teachers hold the belief that digital technology can impair their study abilities such as attention spans if they indulge in digital technology...) or uncited generalization (UG) (e.g., However, **many people argue** that the old SAT test have lost [*sic*] of irrelevant contents such as words that are not used very often). After becoming more familiar with the content on reporting verbs, students were asked to analyze learner samples; the workshop facilitator specifically asked students to pay attention to register/formality, repetition of commonly used reporting verbs, and variety. Next, the facilitator asked for recommendations on revisions and students used their handouts to make suggestions, often focusing on revising reporting verbs such as *say*, *talk about*, *mention*, *write*, *find/found*, and *know*.

Our goals for the workshop included building new knowledge, understanding how and when to apply that new knowledge, and demonstrating comprehension by applying it to their revision processes. Students were active participants during workshops, asking questions, attempting to describe the verbs in context, and becoming more familiar with the vocabulary common to written and spoken registers. Students would identify the most frequent reporting verb in a single text and then articulate how that verb was being used. Our general observations were that students were eager to tackle reporting verbs in their own writing and explore differences in meaning as well as more clearly demonstrate the differences between their own ideas and an author's idea from a source text. While students were applying the new knowledge presented in our workshop, we observed that they were using the materials provided and the search/find feature on their laptops to see if they, too, were over-relying on frequently used reporting verbs as pointed out in our materials. During this process, many students experimented with how a new verb might change the meaning of their sentence. We noticed that it was at least relatively clear to each student we worked with that they could not merely search and replace without making additional revisions to a sentence's overall syntactic structure. At the end of the workshop, students were instructed to continue revising their first draft in preparation for draft 2.

Data Analysis

After conducting the workshop, we examined the changes in the patterns of reporting verb use in the first and the second drafts in both groups' literature reviews via functional and semantic coding (Charles, 2006; Friginal, 2013). We coded reporting verbs by their semantic categories (i.e., *Argue*, *Find*, *Show*, and *Think*; see Appendix 2). Within each semantic category, we classified reporting verbs into three functional categories. The functional categories include reporting (R) from outside sources (e.g., *The author demonstrates...*), self-reference (S) (e.g., *I argue...*), and uncited generalization (UG) (e.g., *Many Chinese say...*). Following Charles' (2006) and Friginal's (2013) definition of reporting verbs, we included in our study the verbs used to attribute to an outside source, the writer, or a generalized population. We excluded cases that were not used for any of the above functions (e.g., *I feel dizzy*), were used in a quote, or were used as other parts of speech (O) (e.g., *The mean of the score is...*). The verbs in each semantic category were extracted with their contextual sentences using AntConc (Anthony, 2014), a freeware corpus analysis program, and then manually coded for the functions described above. Using standard qualitative coding procedures, a group of four coders participated in norming sessions for 10% of the data, and the process continued until 80% or more agreement was reached between the coders (Révész, 2012). The remaining portion of the data was coded by two coders, with a third coder resolving any disagreements. We calculated and compared the normalized frequencies and percentages of reporting verbs used in each draft for both the experimental and control groups by functional and semantic categories. We did not run inferential statistics to determine the significance of within- and between group differences because the number of unique reporting verb forms under each category was not large enough. Lastly, we selected a few student examples to qualitatively analyze.

RESULTS

Variety of Reporting Verbs

The results suggest that our workshop helped participants to increase the variety of reporting verbs used in the four semantic groups. As Table 2 demonstrates, the experimental group produced a broader range of reporting verb types, using more unique forms (increasing from 42 to 48), while the control group produced the same number of unique forms, 46, in their first and second draft.

Table 2
The Total Number of Different Types of Reporting Verbs Used in Texts

	First Draft	Second Draft
Experimental Group	42	48
Control Group	46	46

More specifically, Figure 1 illustrates that the number of different types of verbs in each

semantic category in the experimental group increased more than in the control group; for example, in the semantic category *Argue*, the experimental group increased their variety of unique forms from 23 to 26, and in the semantic category *Find*, the experimental group increased their variety of unique forms from 7 to 9. A similar change was noticed in the *Think* category, which increased by 1. In contrast, the control group's use of verb types demonstrated no change.

One might argue that the control group already showed more lexical variety than the experimental group since their first drafts included more types of reporting verbs except in the *Show* category. However, a closer examination of the data in each category reveals that both the control group and the experimental group shared common patterns of lexical variety in their first drafts. For example, in the *Argue* category, both groups predominantly used *say* and *talk about*, which Hasselgren (1994) calls "lexical teddy bears," meaning highly frequently used basic words (p. 237) (See Figure 2). In contrast, the experimental group's proportional use of *say* and *talk about* decreased substantially after the workshop. Simultaneously, the experimental group strengthened their use of verbs commonly used in academic writing (e.g., *claim*, *conclude*, *propose*) in their second drafts, and were less dependent on one specific type of verb, *mention*. These lexical shifts away from spoken to written register in the experimental group resulted in more balanced lexical distribution and lexical improvement in their use of reporting verbs in their second drafts.

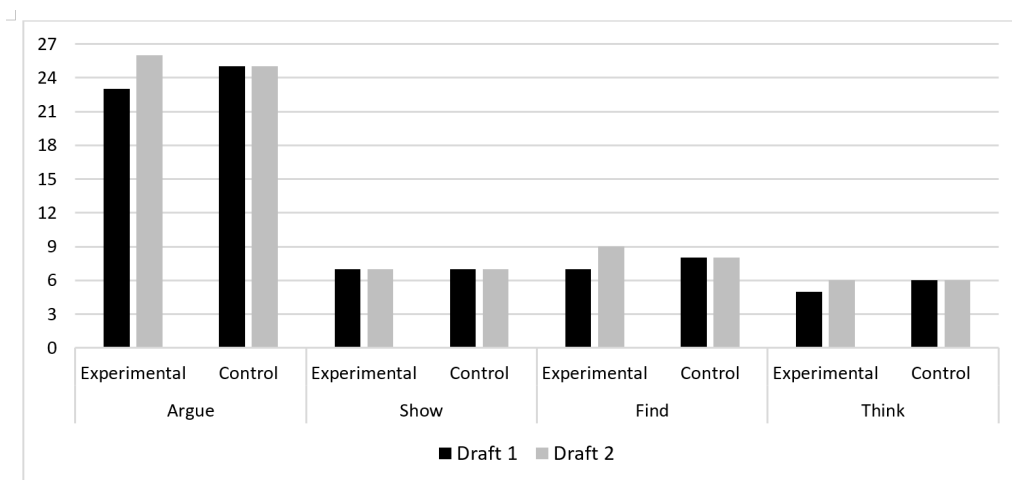


Figure 1. Number of verb types by semantic category

On the other hand, the control group did not reduce their dependency on verbs closely associated with spoken register as much or make as many substantial lexical changes in their use of reporting verbs. In their second drafts, they continued to rely on *say* and *talk about* as their main sources of reporting verbs rather than ones common in academic writing (e.g., *claim*, *conclude*, *propose*).

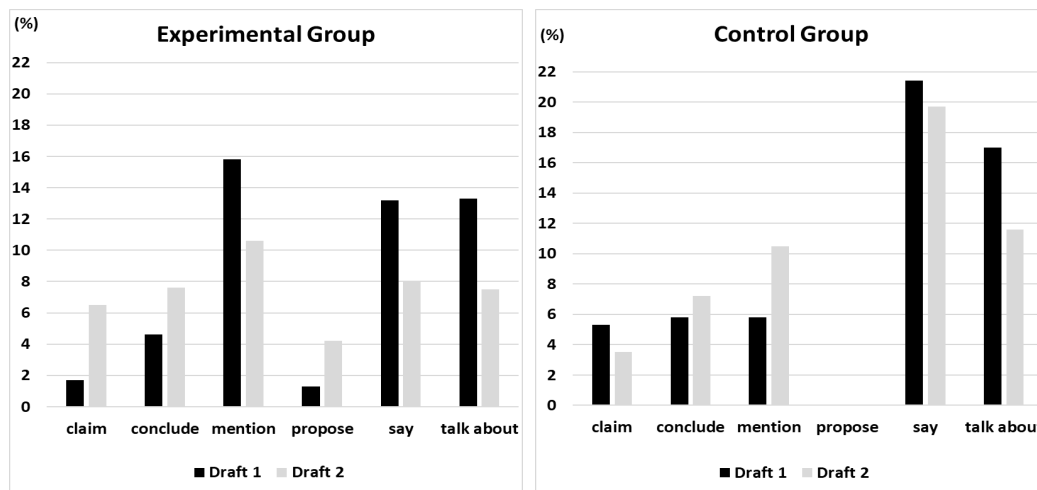


Figure 2. Distribution of selected *Argue* verbs (percentage)

In addition, our qualitative observation of selected cases in the experimental group revealed that the students may not only have improved their lexical variety of reporting verbs but also improved their syntactic variety, experimenting with different voices and stance. In the following example, the student's revision from *clarifies* to *suggests* indicates a change in stance: the writer avoided being overly assertive by using a hedged verb. We have not, however, checked for accuracy of the revisions that the students made to see if their choice of lexical items reflects the stance of the writers they reference.

Draft 1: *As a final point, **the article clarifies** the positive effect of a supply contract announcement for a technology firm.*

Draft 2: *In conclusion, **the article suggests** that there exists a positive effect of technology in finance companies.*

Functional Use of Reporting Verbs

In contrast with the noticeable changes in the variety of reporting verb use in the second drafts, our workshop did not lead to distinctive changes in overall functional use. Although the experimental group produced a slight increase in textual reporting and a slight decrease in the self-referential function, it is not a very meaningful one, especially considering the functional change in the control group (See Figure 3).

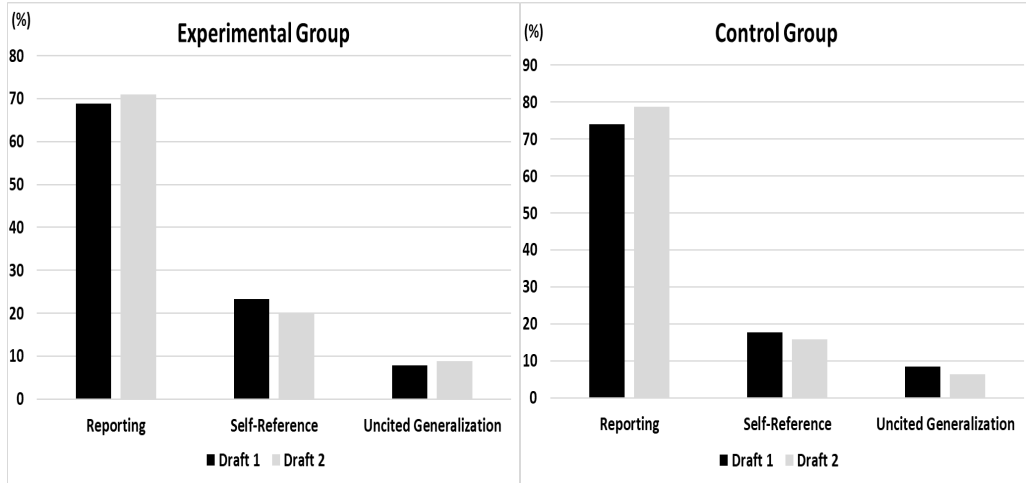


Figure 3. Functional distribution of reporting verb use (percentage)

The functional distribution in *Find* verbs, however, reveals some interesting differences between the drafts of the two groups. As Figure 4 shows, the percentage of self-reference decreased in both groups in their second drafts, with only a slightly greater decrease in the experimental group (from 49.1% to 39.1%) than in the control group (from 37.9% to 28.9%). However, although the experimental group started with a lower percentage of *Find* verbs used for the reporting function, they increased their use by 9.7% in the second draft. The control group on the other hand showed a less dramatic increase in the reporting function by an increase of 5.0% and in fact increased their use of *Find* verbs for uncited generalization. Thus, we might infer that students in both groups became more aware of the convention of academic writing that entails less use of the self-referential function when they added more details from the outside sources in their second drafts. However, the increase in the use of the reporting function by the experimental group suggests they may have focused on this aspect of academic writing conventions a bit more. These different levels of functional changes could imply that the workshop facilitates students’ awareness of source attribution in this particular semantic category.

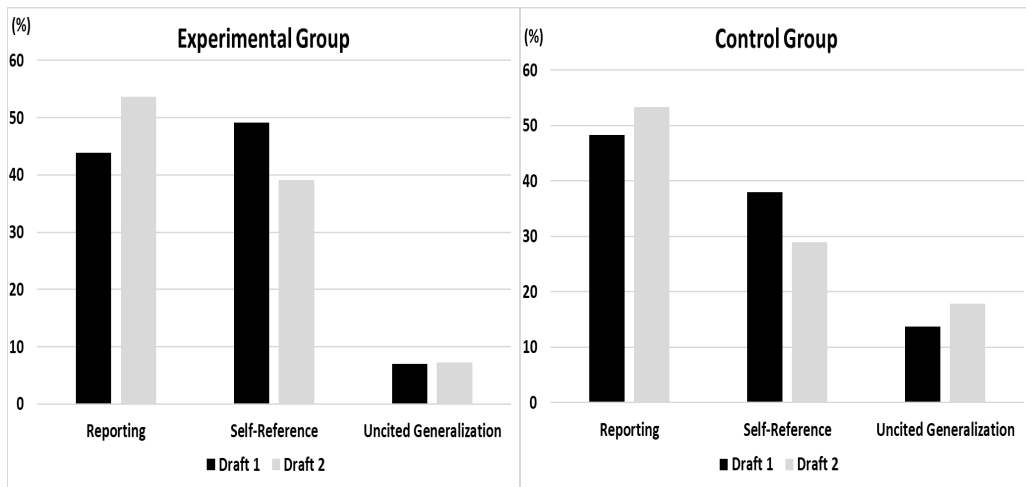


Figure 4. Functional distribution of *Find* verbs (percentage)

In order to further explore the changes, we qualitatively examined students’ functional

revisions. For instance, the following example indicated the functional changes led to more clarity in the second draft as the student used more of the nuanced conventions associated with academic writing. Notably, the student in the second draft explicitly cited the source in use rather than relying on pronouns. The student also revises their use of self-reference, shifting the focus to the content of the article cited.

Draft 1: *The first article **I read** is called “Introduction: Technology, Finance, and Trade in Emerging Markets”. **It provides** an overview of how researchers have found technology as a major influence in the workplace, specifically in the area of finance and trade.*

Draft 2: *Firstly, **Kim, Ching, Cho and Yi (2015) provide** an overview of how researcher have found technology as a major influence in the workplace, specifical in the area of finance and trade. **The article claims** that the application of new technology has positively influenced the field of finance in general.*

DISCUSSION AND CONCLUSION

Our study investigated the impact of corpus-based instruction on the lexical variety and functional uses of reporting verbs used by L2 developing writers in an academic context. We sought to assist students in building new knowledge about the functional and semantic uses of reporting verbs, and in applying that new knowledge to their revision process. The results indicate that our workshop was beneficial in regard to building students’ lexical variety of reporting verbs. We noted substantial extension in the range of reporting verbs between the experimental groups’ drafts while the control group demonstrated no change in lexical variety. More importantly, the workshop appears to have enhanced the experimental groups’ awareness of registers in academic genres, as students shifted from using discourse most commonly associated with spoken registers (e.g., *talk about, say*), towards written academic conventions. In addition, the students’ increase of lexical or semantic variety seems to have allowed them to experiment with new syntactic and rhetorical moves in their writing. Our qualitative observations demonstrated nuanced revisions between selected students’ first and second drafts in the experimental group.

The impact of our workshop on functional changes seems to be more limited, quantitatively in particular. There was little overall difference in the use of reporting function between the drafts and the groups, although we did observe more increase in reporting function in *Find* verbs in the experimental group’s second drafts than in the control group’s. One reason for this lack of change is related to three different components of language learning. Language learning is most successful when students tackle all three dimensions of the target language: its form, meaning, and use (Larsen-Freeman, 2014). To this end, we should acknowledge the limitation of our study: A single forty-five-minute workshop was not sufficient in fully enhancing students’ functional use of reporting verbs. During our short workshop, the students focused more on variety and semantic categories (meaning and form) than function (use) (i.e., students would change the verb *talk about* to *explain*, but would not necessarily discuss the function of the verbs). Students would benefit from more frequent and varied learning experiences over a longer period to be able to internalize appropriate functional use of reporting verbs as well as their forms and meanings. One handy alternative would be to recycle the workshop principles throughout the remainder of the term with different examples.

In addition, we would like to point out that students made revisions in the functional

aspects of source use that may not be reflected in the increase of reporting verb function. The example revision below suggests that, although the student's revision does not lead to a quantitative increase in using reporting verbs for reporting function, directly attributing an outside source improved the clarity of the discussion, strengthening the argumentative stance. The student writer also picked up the convention of using authors' last names when reporting from the source, even though this was not an explicit focus of the workshop. The extent of the use of the last name practice was beyond the scope of the research.

*Draft 1: The third article focus held the same standpoints on how antibiotic resistance is a present problem, but it use the antibiotic resistance to understand why there is a resistance when antibiotics are used and it targets on the way antibiotics kill bacteria. The article focus more scientifically than the two articles before, **talking on** specific ways how antibiotics works.*

*Draft 2: Kohanski, Dwyer, & Collins also focused on the same standpoints with Spellberg, Bartlett, & Gilbert (2013) and S. Altman (2013) on how antibiotic resistance is a present problem. Kohanski, Dwyer, & Collins use the antibiotic resistance to understand why there is a resistance when antibiotics are used and it targets on the way antibiotics kill bacteria, they focus more scientifically than the other two articles **mentioned** above by Kohanski, Dwyer, & Collins **hypothesized on** specific ways how antibiotics works.*

Despite its limitations, the current study demonstrates the potential effectiveness of our corpus-based workshop on the improvement of the variety and functions of reporting verbs. Additionally, the study provides a manageable opportunity for teacher development as the workshop materials are concise, easily adaptable, and intended to be implemented during class. This set-up supports teacher development without requiring educators to over-extend or over-commit themselves. Based on our results, however, we suggest that instructors who wish to adapt our workshop and pedagogical materials for their classroom embed a more scaffolded approach in their instruction, approaching functional and semantic categories separately and then finally together. A separate lesson on the function of reporting verbs would allow students to tackle the more challenging aspect of the academic writing register, in which there is a diminished reliance on common knowledge (uncited generalization), and personal opinion (self-reference) in favor of referring to published, peer-reviewed sources. This format of instruction could be extended to a variety of genres (e.g., argumentative essays, narratives, and analyses) to raise students' awareness of genre-specific practices of reporting verb functional use. Meanwhile, a separate session on the semantic category of reporting verbs may expose the nuanced semantic changes that occur when writers choose different reporting verbs to bring in sources to their text. For example, teachers can ask students to discuss how the meaning of a sentence changes as the verb choice does (e.g., *Johnson (2017) thinks / argues / finds / shows ...*) and how to recognize when published authors use these categories for different purposes. Lastly, we acknowledge the possibility that students who participated in the workshop were given extra attention as three additional teacher-scholars were present in the room compared to the control group where only one teacher-scholar was present; the latter being a likely scenario for all teacher-scholars who may choose to (a) adapt materials for their own instruction or (b) replicate the study.

The semantic and functional application of reporting verbs in academic writing is nuanced and complex; the instruction of reporting verbs even more so. Our study adds to the growing body of research on the impact of corpus-based instruction on the lexical variety and functional uses of reporting verbs used by L2 writers in academic writing. However, more

research needs to be done in order to examine whether longer workshops or a series of sequenced classes can make a greater impact on L2 writers' practices. The results of our study suggest that students can benefit from such focused instruction.

REFERENCES

- Anthony, L. (2014). AntConc (Version 3.4.3m) [Computer Software]. Tokyo, Japan: Waseda University. Available from <http://www.laurenceanthony.net/>
- Biber, D., Johansson, S., Leech, G., Conrad, S., Finegan, E., & Quirk, R. (1999). *Longman grammar of spoken and written English*. White Plains, NY: Longman.
- Biber, D., & Conrad, S. (2009). *Register, genre, and style*. New York, NY: Cambridge University Press.
- Biber, D., & Reppen, R. (1998). Comparing native and learner perspectives on English grammar: A study of complement clauses. In S. Granger (Ed.), *Learner English on computer* (pp. 145–158). London, England: Longman.
- Bloch, J. (2009). The design of an online concordancing program for teaching about reporting verbs. *Language Learning & Technology*, 13(1), 59–78.
- Bloch, J. (2010). A concordance-based study of the use of reporting verbs as rhetorical devices in academic papers. *Journal of Writing Research*, 2(2), 219–244.
- Charles, M. (2006). Phraseological patterns in reporting clauses used in citation: A corpus-based study of theses in two disciplines. *English for Specific Purposes*, 25(3), 310–331.
- Cotos, E. (2014). Enhancing writing pedagogy with learner corpus data. *ReCALL*, 26(2), 202–224.
- Flowerdew, J., & Forest, R. (2009). Schematic structure and lexico-grammatical realization in corpus-based genre analysis: The case of research in the PhD literature review. In M. Charles, D. Pecorari, & S. Hunston (eds.), *Academic writing: At the interface of corpus and discourse* (pp. 15–36). London, England: Continuum.
- Francis, G., Hunston, S., & Manning, E. (1996). *Collins COBUILD grammar patterns 1: Verbs*. London, England: Harper Collins.
- Friginal, E. (2013). Developing research report writing skills using corpora. *English for Specific Purposes*, 32(4), 208–220.
- Granger, S. (2002). A bird's-eye view of learner corpus research. In S. Granger, J. Hung, & S. Petch-Tyson (Eds.), *Computer learner corpora, second language acquisition and foreign language teaching* (pp. 3–33). Amsterdam, The Netherlands: Benjamins.
- Hasselgren, A. (1994). Lexical teddy bears and advanced learners: A study into the ways Norwegian students cope with English vocabulary. *International Journal of Applied Linguistics*, 4(2), 237–258.
- Hinkel, E. (2003). Simplicity without elegance: Features of sentences in L2 and L1 academic texts. *TESOL Quarterly*, 37, 275–301.
- Johns, T. (1991). Should you be persuaded: Two samples of data-driven learning materials. *English Language Research Journal*, 4, 1–16.
- Kwon, M. H., Staples, S., & Partridge, R. S. (2018). Source work in the first-year L2 writing classroom: Undergraduate L2 writers' use of reporting verbs. *Journal of English for Academic Purposes*, 34, 86–96.
- Larsen-Freeman, D. (2014). Teaching grammar. In M. Celce-Murcia, D. M. Brinton, & M. A. Snow (Eds.), *Teaching English as a second or foreign language* (4th ed.) (pp. 256–270). Boston, MA: National Geographic Learning/Heinle Cengage Learning.
- Neff, J., Dafouz, E., Herrera, H., Martinez, F., Pedro Rica, J., Diez, M., Prieto, R., & Sancho, C. (2003). Contrasting learner corpora: The use of modal and reporting verbs in the expression of writer stance. In S. Granger & S. Petch-Tyson (Eds.), *Language and computers: Extending the scope of corpus-based research* (pp. 211–230). London, England: Rodopi.
- Pecorari, D. (2008). *Academic writing and plagiarism: A linguistic analysis*. London, England: Continuum.
- Révész, A. (2012). Coding second language data validly and reliably. In A. Mackey & S. M. Gass (Eds.), *Research methods in second language acquisition: A practical guide* (pp. 203–221). Oxford, UK: Wiley-Blackwell.
- Staples, S., & Reppen, R. (2016). Understanding first-year L2 writing: A lexico-grammatical analysis across L1s, genres, and language ratings. *Journal of Second Language Writing*, 32, 17–35.
- Swales, J. (2014). Variation in citational practice in a corpus of student biology papers from parenthetical plonking to intertextual storytelling. *Written Communication*, 31(1), 118–141.
- Swales, J., & Lindemann, S. (2002). Teaching the literature review to international graduate students. In A. M. Johns (Ed.), *Genre in the classroom: Multiple perspectives* (pp. 105–20). Mahwah, NJ: Lawrence Erlbaum.
- Thompson, G., & Ye, Y. (1991). Evaluation in the reporting verbs used in academic papers. *Applied Linguistics*,

12(4), 365–82.

APPENDIX 1

Functions of Reporting Verbs (RVs)

Reporting verbs	Student RV examples (attributing to a source, actor, or information w/reporting verbs)
Reporting (R) : introduces information from an outside source (suggests feeling/stance towards information).	<ul style="list-style-type: none"> → Research on social psychology shows that anticipated emotions are diverse (Steel, 2009). → Fast-Food Outlets on Wall Street Journal <u>says</u> that some of these fast-food chain are unhealthy. → A study of Feral Cat Population Problem recently, found that the population of feral cat in Chicago fell.
Self-reference (S) : presents feelings of and actions completed by (or intended to be completed by) the author.	<ul style="list-style-type: none"> → I'll use this to support my argumentative essay to show the negative effects for young athletes. → I can <u>say</u>, without doubt, that this way to keep fit had entirely altered my lifestyle and enhanced my health efficiently. → After reading these three articles, I found that the results of them is similar in some aspects.
Uncited Generalization (UG) : is used to provide feelings or assumptions often without supporting evidence.	<ul style="list-style-type: none"> → All males have the right to show themselves as male by dressing their own way. → One could <u>say</u> the first violinist sets the tone for the rest of the orchestra. → It is not hard to find that college students who are not very friendly with international students.
Other (O) : represents a different part of speech and/or is not used as a reporting verb.	<ul style="list-style-type: none"> → The shows put on by the student club help participants connect with the larger university. → That is to <u>say</u> retailers can deliver more new products... → Conversely, more recent findings indicate that short sleepers ...

APPENDIX 2

Semantic Categories of Reporting Verbs

Category	Verb choices	Student sample writing (verbs altered)
Argue Introduces information and suggests feeling or stance towards the information.	argue, suggest, assert, note, predict, write , explain, conclude, mention , admit, observe, accept, claim, imply, complain, say , add, hypothesize, insist, maintain, propose, remark, reply, speculate, stress, contend, state, report, postulate, acknowledge, posit, talk about (31 types)	<ul style="list-style-type: none"> → Then the author <i>says</i> why the use and abuse could be a problem. → Then the author <i>postulates</i> why the use and abuse could be a problem. → Then the author <i>proposes</i> why the use and abuse could be a problem.
Show Presents an interpretation of action or task performed.	show , illustrate, indicate, demonstrate, confirm, mean, reveal (7 types)	<ul style="list-style-type: none"> → According to the article cited below, some clinical studies <i>showed</i> the safety and advantage of nanorobots. → According to the article cited below, some clinical studies <i>revealed</i> the safety and advantage of nanorobots. → According to the article cited below, some clinical studies <i>indicated</i> the safety and advantage of nanorobots.
Find Presents discovery; often used to refer to writers' own actions (e.g., research).	find , realize, observe, discover, establish, infer, recognize, identify, note (9 types)	<ul style="list-style-type: none"> → The peer-reviewed article <i>found</i> Smith & Khawaja, (2011) agrees with Tas (2011). → The peer-reviewed article <i>establishes</i> that (Smith & Khawaja, 2011) agrees with Tas (2011). → The peer-reviewed article <i>identifies</i> agreement between (Smith & Khawaja, 2011) and Tas (2011).
Think Presents mental action that conveys feelings and assumptions; <i>often</i>	think , hold, assume, feel, hope, know (5 types)	<ul style="list-style-type: none"> → Some students <i>think</i> it is not necessary to know foreign culture.* → Most international students <i>feel</i> lonely, bored, and they cannot make friends with foreign students.* <p>*Think verbs are much stronger when connected directly to</p>

<i>used without evidence.</i>	evidence; how might you provide support for such statements?
-------------------------------	--

The bolded verbs above are the ones that are most commonly used by international students, accounting for over three-fourths of all reporting verb use in an earlier study of literature review assignments (Kwon, Staples, & Partridge, 2018).